

OTAY CROSSINGS COMMERCE PARK

APPENDIX B

TRAFFIC IMPACT STUDY (VOL. I)

to the

DRAFT SUPPLEMENTAL
ENVIRONMENTAL IMPACT REPORT

EIR 93-19-006Q, TM 5405RPL⁷
SCH No. 2006041039

Lead Agency:

County of San Diego
Department of Planning and Land Use
5201 Ruffin Road, Suite B
San Diego, California 92123
Contact: Robert Hingtgen
(858) 694-3712

MAY 2010

TRAFFIC STUDY thru APPENDIX C

For

***The Otay Crossings Commerce Park
(TM 5405RPL7, ER 93-19-006Q)***

Prepared For: The County of San Diego

Submitted To:

*Kearny PCCP Otay 311, LLC
655 West Broadway, Suite 1600
San Diego, CA 92101*

Prepared By:

*Bill E. Darnell
(RCE 22338)
Darnell & Associates, Inc.
1446 Front Street, Suite 300
San Diego, CA 92101*



Signature: *Bill E. Darnell*
Date Signed: *5-6-2010*

Volume I of II

Revised: May 6, 2010
Revised: April 20, 2010
Revised: October 15, 2009
Revised: April 29, 2009
Revised: October 23, 2008
Revised: September 5, 2008
Revised: September 13, 2007
Revised: December 14, 2006
Revised: July 24, 2006
Revised: May 25, 2006
Revised: June 28, 2005
Original: October 20, 2004

Darnell & ASSOCIATES, INC.

TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

May 6, 2010

Mr. John Bragg
Kearny PCCP Otay 311, LLC
655 West Broadway, Suite 1600
San Diego, CA 92101

D&A Ref. No: 040501

Subject: Revised Traffic Impact Study for the Proposed Otay Crossings Commerce Park Located on 311.5 Acres At the Southeast Corner of Otay Mesa Road and Alta Road in the Otay Mesa Area of San Diego County.

Dear Mr. Bragg:

Darnell & Associates, Inc. (D&A) has revised our April 20, 2010 transportation study assessing the impacts related to the proposed Otay Crossings Commerce Park located on 311.5 acres at the southeast corner of Otay Mesa Road and Alta Road in the Otay Mesa Area of San Diego County. The revised report incorporates our responses to the County's comment on our April 20, 2010 traffic study. Our response to the County's comment is provided directly behind this letter and in Appendix R of this report.

This report analyzes the traffic impacts associated with the proposed project on the local roadways and intersections for existing without and with project, cumulative (2020) with SR-905 [Phases 1A & 1B] conditions, and 2030 conditions analysis per the County's Specific Plan Amendment 2007.

If you have any questions, please feel free to contact this office.

Sincerely,

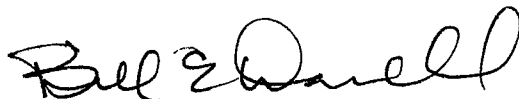
Darnell & Associates, Inc.



Jessica L. Bavos
Transportation Planner



Vicki S. Haskell, P.E.
Principal Transportation Engineer
RCE 63754



Bill E. Darnell, P.E.
Firm Principal
RCE 22338

BED/vsh/rlp/st/cmt/jlb
040501_OtayCrossingsCommercePark (May 10)/05-10



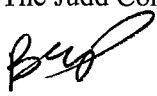

Date Signed 05-06-10

Date Signed 5-6-2010

MEMORANDUM

DATE: May 6, 2010

TO: Mr. John Bragg, Kearny PCCP Otay 311, LLC
Mr. Judd Halenza Jr., The Judd Company

FROM: Bill E. Darnell, P.E. 
Jessica Bavos 

D&A Ref. No: 040501

RE: Otay Crossings Commerce Park (TM 5405RPL7, ER 93-19-006Q) – Responses to
County Comments.

Darnell & Associates, Inc. (D&A) has reviewed the County of San Diego's comment on our April 20, 2010 Traffic Study for Otay Crossings Commerce Park (TM 5405RPL7, ER 93-19-006Q).

Comment 1: Page 149; for Unit 1, language describing cumulative impacts at the intersection of Airway Road/Sanyo Avenue and Siempre Viva Road/Michael Faraday Drive should read "prior to recordation of map for Unit 1" as the impacts are in the City of San Diego.

Response 1: Page 149 of the May 2010 revised Traffic Study has been revised accordingly.

Please feel free to contact the office if you have any questions.

TRAFFIC IMPACT STUDY

FOR

THE OTAY CROSSINGS COMMERCE PARK
(TM 5405RPL7, ER 09-19-006Q)

IN THE COUNTY OF SAN DIEGO

Submitted To:

KEARNY PCCP OTAY 311, LLC
655 West Broadway, Suite 1600
San Diego, CA 92101

Prepared by:

DARNELL & ASSOCIATES, INC
1446 Front Street, Suite 300
San Diego, California 92101
619-233-9373

May 6, 2010

040501_OtayCrossingsCommercePark (May 10)/05-10

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APPENDIX R

- Response to County's Comments

EXECUTIVE SUMMARY

The Otay Crossings Commerce Park project is a Tentative Map (TM) and Preliminary Grading Plan (Tract 5405) for 311.5 acres of land designated for Mixed Industrial, Rural Residential and State Route (i.e., SR-11) use in Subarea 2 of the East Otay Mesa Specific Plan (EOMSP). The future route for SR-11 traverses the site and the future U.S. Port-of-Entry is situated on the south portion of the site. The TM will subdivide the property into 59 lots (56 industrial lots and 3 open space lots) ranging in size from 0.90 net acres to 95.4 net acres. The 56 industrial lots and three (3) open space lots will be divided and recorded in five separate units. Approximately 286.4 acres will be placed in lots, while 19.3 acres would contain on site public streets. The right-of-way for SR-11 has been mapped on approximately 3 of the 56 lots. The portions of those lots that are encumbered by the potential Caltrans right-of-way are shown on the TM as "approximate location of future SR-11 right-of-way." The encumbered area is a reservation of future right-of-way for SR-11 made pursuant to Government Code section 66480.

Grading for the proposed project will be completed in two phases. Grading for Phase 1 comprises of three final maps (units 1, 2, and 3) and Grading for Phase 2 comprises two final maps (units 4 and 5). The project proposes to construct the project in the following timeline: construct Unit 1 by 2011, construct Unit 2 by 2012, construct Unit 3 by 2013, and construct Units 4 and 5 by 2014. Since SR-905 Phase 1A is scheduled to be completed by 2010 and SR-905 Phase 1B is anticipated to be completed by March 2012; Units 1 and 2 of the proposed project should be completed prior to the completion of SR-905 Phase 1B while Units 3-5 would not be completed until after SR-905 Phase 1B was completed. To assess the worse case scenario, however, this traffic study has assessed the direct traffic impacts of all five (5) units of the proposed units without the completion of the SR-905 facility. The cumulative traffic impacts of all five (5) units of the proposed project were assessed both without the SR-905 and with the completion of Phases 1A and 1B of the SR-905.

Per the proposed site plan, in the near term when the developer will be utilizing the area set aside for the future SR-11 right-of-way for truck parking, the proposed project is estimated to generate 21,279 daily trips, 2,853 AM peak hour trips, and 3,017 PM peak hour trips. Once the SR-11 is constructed and the truck parking can no longer be utilized, the project will generate 18,768 daily trips, 2,627 AM peak hour trips, and 2,816 PM peak hour trips. It should be noted, however, that to assess the worse case scenario the full trip generation potential was analyzed in this report.

This report addresses the following: existing conditions, project trip generation, existing with Unit 1, existing with Units 1-2, existing with Units 1-3, existing with Units 1-4, existing with Units 1-5, cumulative (2020) with SR-905 [Phases 1A & 1B], 2030 conditions without and with Units 1-5 conditions, and recommended mitigation measures.

Please refer to Section IX of this report for a summary of the project's impacts and recommended mitigation measures.

SECTION I – INTRODUCTION

PROJECT DESCRIPTION

The Otay Crossings Commerce Park project is a Tentative Map (TM) and Preliminary Grading Plan (Tract 5405) for 311.5 acres of land designated for Mixed Industrial, Rural Residential and State Route (i.e., SR-11) use in Subarea 2 of the East Otay Mesa Specific Plan (EOMSP). The future route for SR-11 traverses the site and the future U.S. Port-of-Entry is situated on the south portion of the site. The TM will subdivide the property into 59 lots (56 industrial lots and 3 open space lots) ranging in size from 0.90 net acres to 95.4 net acres. The 56 industrial lots will be divided and recorded in five separate units. Approximately 286.4 acres will be placed in lots, while 19.3 acres would contain on site public streets. The right-of-way for SR-11 has been mapped on approximately 3 of the 56 lots. The portions of those lots that are encumbered by the potential Caltrans right-of-way are shown on the TM as “approximate location of future SR-11 right-of-way.” The encumbered area is a reservation of future right-of-way for SR-11 made pursuant to Government Code section 66480. Figure 1 shows the vicinity of the proposed project and Figure 2 shows the proposed tentative map.

Grading for the proposed project will be completed in two phases. Grading for Phase 1 comprises of three final maps (units 1, 2, and 3) and Grading for Phase 2 comprises two final maps (units 4 and 5). The project proposes to construct the project in the following timeline: construct Unit 1 by 2011, construct Unit 2 by 2012, construct Unit 3 by 2013, and construct Units 4 and 5 by 2014. Since SR-905 Phase 1A is scheduled to be completed by 2010 and SR-905 Phase 1B is anticipated to be completed by March 2012; Units 1 and 2 of the proposed project should be completed prior to the completion of SR-905 Phase 1B while Units 3-5 would not be completed until after SR-905 Phase 1B was completed. To assess the worse case scenario, however, this traffic study has assessed the direct traffic impacts of all five (5) units of the proposed units without the completion of the SR-905 facility.

Although the full project is anticipated to be built-out prior to the cumulative analysis year (2015) to compare the difference, if any, in cumulative impacts associated with each unit of development; D&A conducted the cumulative analysis for all five (5) units of the proposed project without the SR-905 and with the completion of Phases 1A and 1B of the SR-905.

CONGESTION MANAGEMENT PROGRAM

Based on the approval of Proposition 111 in 1990, regulations require the preparation, implementation, and annual updating of a Congestion Management Program (CMP) in each of California’s urbanized counties. The original CMP for the San Diego region was adopted in 1991 and has been updated periodically as an element of the Regional Transportation Plan (RTP). One required element of the CMP is a process to evaluate the transportation and traffic impacts of large projects on the regional transportation system. That process is undertaken by local agencies, project applicants, and traffic consultants through a transportation impact report usually conducted as part of the CEQA project review process. Authority for local land use decisions including project approvals and any required mitigation remains the responsibility of local jurisdictions.

The criteria for which a project is subject to the regulations as set forth in the CMP are determined by the trip generation potential for the project. Currently, the average daily traffic (ADT) threshold is 2,400 vehicles or 200 peak hour trips. The proposed project will generate approximately 21,279 daily trips, 2,853 AM peak hour trips, and 3,017 PM peak hour trips (see Section II, Project Related Conditions) and is therefore subject to CMP guidelines for traffic impact studies.

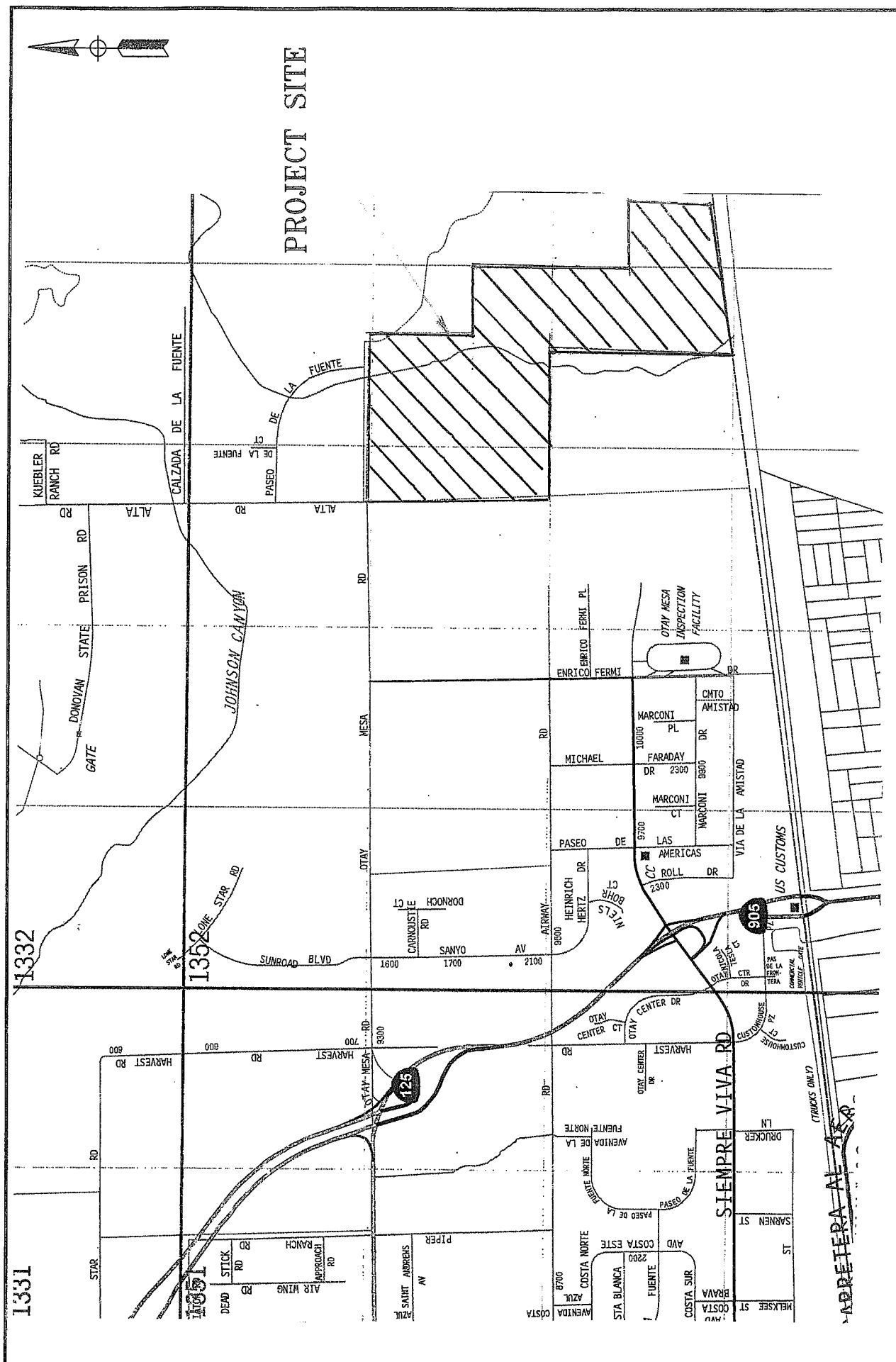


FIGURE 1
VICINITY MAP

Darnell & Associates, Inc.
040501JJ.dwg 8-14-08 SN



SCHEDULED OR PROGRAMMED ROAD IMPROVEMENTS PROJECTS

Capital Improvement Projects

The current County of San Diego's 5-Year Capital Improvement Plan 2008/09 – 2012/13 includes the following three roadway segments within the East Otay Mesa area: (1) Construction of Additional Lanes on Airway Road between Michael Faraday Drive and Enrico Fermi Drive; (2) Construction of Lone Star Road from Alta Road to the west for 0.5 miles, and (3) Widening Otay Mesa Road from Vann Centre Boulevard to Enrico Fermi Drive. Funding for the Airway Road improvements are anticipated to come from Transportation Impact fees, the schedule for completion is to be determined. The Lone Star Road improvements are anticipated to be completed in spring of 2014 with funding anticipated to come from Federal sources. The Otay Mesa Road widening project is anticipated to be completed in spring of 2014 with funding still to be determined. See excerpts from the CIP in Appendix B for more details on each of these projects.

Caltrans' Projects

Caltrans currently has two (2) major State Route facility projects in the Otay Mesa Area: (1) State Route 905 and (2) State Route 11. In addition, during the construction of the structures at the State Route 905/Airway Road intersection, Caltrans proposes to implement a detour to re-route traffic via Sanyo Avenue and Otay Mesa Road. As mitigation of the planned detour, Caltrans is required to make improvements to the Otay Mesa Road/Sanyo Road intersection and the segments of Otay Mesa Road between Harvest Road and Sanyo Avenue, and Sanyo Avenue between Otay Mesa Road and Airway Road. The following summarizes the project description and schedule for each of these projects. (A copy of Caltrans' Fact sheets for the SR-905 and SR-11 projects is provided in Appendix B.)

1. **State Route 905** – The State Route 905 (SR-905) project will consist of constructing a transportation facility from Interstate 805 to the Otay Mesa Port of Entry (POE) at the US-Mexico Border. Project alternatives under study include a variable alignment of a six lane freeway alternative that would run parallel and roughly 1,300 feet to the south of the existing Otay Mesa Road, and a six lane toll way. The project will include grade separated local access interchanges with SR-125. The portion of the project from the Otay Mesa POE to Airway Road began construction in January 2003. As a part of this project the SR-905/Siempre Viva Road grade separated interchange was completed and opened to traffic in 2005. The remainder of the project has been divided into 4 phases. In discussions with Caltrans, it has been determined that the SR-905 facility would be constructed in the following four phases:
 - **Phase 1:** Phase 1 consists of two phases, namely Phase 1A (east) and Phase 1B (west). Phase 1A would consist of a six-lane facility between Britannia Boulevard and the Otay Mesa Port of Entry with a full interchange at SR-905/La Media Road and ramps on the eastern side of Britannia Boulevard. Roadway improvements will be made along Otay Mesa Road, Airway Road, Sanyo Avenue, and Harvest Road. Phase 1B consists of a six-lane facility between Caliente Avenue and Britannia Boulevard. Phase 1B includes an interchange at Caliente Avenue and ramps on the western side of Britannia Boulevard. Phase 1A is fully funded. Construction of Phase 1A began in April 2008 and is scheduled to be completed by late 2010. Phase 1B is also fully funded and secured with the majority of the funding coming from the American Recovery & Reinvestment Act funding. Construction of Phase 1B began in July 2009 and is scheduled to be completed by summer 2012.
 - **La Media Road Improvements:** As part of the construction of Phase 1A, Caltrans is working on improvements to La Media Road between Otay Mesa Road and approximately 300 feet (300') south of the proposed SR-905 eastbound ramp. The Caltrans improvements to La Media Road have improved the existing cross-section of the segment of La Media Road between Otay Mesa Road and

approximately Saint Andrews Avenue (the approximate location of the SR-905 ramps) to the equivalent of a 4-lane Collector. See Appendix P for Caltrans proposed striping concept of La Media Road.

- **Phase 2:** Phase 2 consists of improvements at the interchange at Interstate 805 (I-805)/SR-905 that includes construction of the westbound SR-905 to northbound I-805 connector from SR-905. An auxiliary lane will also be constructed along northbound I-805 between SR-905 and Palm Avenue. This Phase will also include widening of the Del Sol Boulevard under crossing. Phase 2 is not currently funded.
- **Phase 3:** Phase 3 consists of construction of the interchange at SR-125/SR-905. Phase 3 is not currently funded.
- **Phase 4:** Construction of the interchange at Heritage Road. Phase 4 is not currently funded.

See Appendix B for the SR-905 Status Update and fact sheets provided by Caltrans.

2. **State Route 11** – The State Route 11 (SR-11) project will consist of constructing approximately two miles of a new four-lane freeway from the proposed SR-905/SR-125 junction to the future Federal Port of Entry (POE) at east Otay Mesa in San Diego County. An environmental study for the SR-11 program has been completed and a second study for the project itself is underway, with completion expected in 2010. The current schedule calls for the SR-11 breaking ground in 2012 and opening in 2014, contingent on full funding. The location of the ramp interchanges, and the ramp interchange configurations will not be determined until after the completion of the SR-11 Phase 2 Project-level EIR. In the traffic analysis and study, the SR-11 facility and the POE at the third border crossing were assumed to be constructed and operational only under the 2030 conditions. Appendix B contains the Caltrans fact sheet for the SR-11 project.
3. **Airway Road Closure/Detour Mitigation Measures** – Currently Airway Road between the SR-905 and Sanyo Avenue is closed for the construction of the SR-905 overpass, Caltrans schedule shows Airway Road between SR-905 and Sanyo Avenue opening to traffic on January 5, 2011. While the segment of Airway Road between SR-905 and Sanyo Avenue is closed for the construction of the SR-905/Airway Road structures, Caltrans has implemented a detour to re-route traffic via Sanyo Avenue and Otay Mesa Road (Old Otay Mesa Road). As a mitigation requirement of the detour (closure of Airway Road) Caltrans signalized the Otay Mesa Road/Sanyo Avenue intersection and improved the roadway segment of Otay Mesa Road between Harvest Road and Sanyo Avenue to the standards of a 4-lane Major Road and the segment of Sanyo Avenue between Otay Mesa Road and Airway Road to the standards equivalent to that of a 4-lane Collector Road. Upon completion of the SR-905 overcrossings with Airway Road, Caltrans is widening Airway Road to provide two (2) lanes in each direction and a painted median with pavement transitions to provide the equivalent of a collector road that provides one (1) lane in each direction plus a center turn lane from Sanyo Avenue to La Media Road. Per field checks conducted in June 2009, the proposed improvements by Caltrans have been completed.

Planned State Routes SR-11 along with the completion of all phases of SR-905 are critical to accommodating the future development of the entire Otay Mesa area. It should be noted that the SR-125 facility is a major roadway project in the Otay Mesa area that was just recently completed and opened to traffic in November 2007. All traffic counts and existing conditions included within this traffic study include the completion and operation of the SR-125.

EAST OTAY MESA SPECIFIC PLAN AMENDMENT 2002

On June 12, 2002, the County Board of Supervisors approved the Specific Plan Amendment to revise the East Otay Mesa Specific Plan and divide the Specific Plan into two sub-areas. The proposed project is located in Sub-area 2. A copy of excerpts from the Specific Plan Amendment can be found in Appendix B.

In conjunction with approving the Specific Plan Amendment to revise the East Otay Mesa Specific Plan, the County Board of Supervisors also adopted the resolutions for the General Plan Amendment (GPA 02-CE1) and the Amendment of the East Otay Mesa Specific Plan (SPA 00-005). A copy of the Board Resolutions that were adopted on June 12, 2002 can be found in Appendix B. A copy of the complete list of actions taken by the Board of Supervisors on June 12, 2002 can be found in the minutes from the meeting (Minute Order No. 4) which is provided in Appendix B.

EAST OTAY MESA SPECIFIC PLAN AMENDMENT 2007

Since the time the Specific Plan Amendment was adopted in the year 2002 significant changes have occurred in the East Otay Mesa area such as increase in traffic volumes on Otay Mesa Road within the City of San Diego, revised project and construction schedules for SR-125, SR-905 and SR-11 and the future Otay Mesa East Port of Entry, along with revised pace of development within East Otay Mesa. The County has adopted an amendment to the East Otay Mesa Specific Plan, the General Plan Circulation Element, and the County Bicycle Transportation Plan to update the circulation system and bicycle network to reflect revised project plans and construction schedules for State Route 905, State Route 11 and the future Otay Mesa East Port of Entry. There were three types of amendments for the East Otay Mesa Specific Plan Subareas 1 and 2. Those amendments were to the circulation plan, bicycle network, and regulatory standards relating to site plan requirements, fencing detail, driveway location criteria, and sidewalk design.

The Board of Supervisors for the County of San Diego approved the original amendment to the East Otay Mesa Specific Plan Amendment on August 1, 2007. A revised amendment to the East Otay Mesa Business Park Specific Plan for Subarea 1 was adopted by the Board of Supervisors on April 8, 2009. A summary of the General Plan Circulation Element and Specific Plan changes that directly impact the proposed project is provided in Section VI of the traffic study along with figures showing 2030 roadway conditions and traffic forecast. A copy of the Board Resolutions that were adopted on August 1, 2007 can be found in Appendix B. Excerpts from the East Otay Mesa Business Park Specific Plan Amendment for Subarea 1 are also provided in Appendix B.

The proposed project is consistent with the East Otay Mesa Specific Planning Subarea 2.

SCENARIOS STUDIED

The following scenarios were analyzed in this report and are identified as follows:

Existing (Year 2008) Conditions refers to that condition which exists on the ground today (2008), including existing traffic counts and existing lane configurations at intersections and on roadway segments.

Existing (Year 2008) Plus Unit 1 Project Conditions refers to those conditions which includes the existing traffic volumes and lane configurations plus the traffic generated by Unit 1 of the proposed project.

Existing (Year 2008) Plus Units 1-2 Project Conditions refers to those conditions which includes the existing traffic volumes and lane configurations plus the traffic generated by Units 1-2 of the proposed project.

Existing (Year 2008) Plus Units 1-3 Project Conditions refers to those conditions which includes the existing traffic volumes and lane configurations plus the traffic generated by Units 1-3 of the proposed project.

Existing (Year 2008) Plus Units 1-4 Project Conditions refers to those conditions which includes the existing traffic volumes and lane configurations plus the traffic generated by Units 1-4 of the proposed project.

Existing (Year 2008) Plus Build-Out of the Project (Units 1-5) Conditions refers to those conditions which includes the existing traffic volumes and lane configurations plus the traffic generated by full build out (Units 1-5) of the proposed project.

Cumulative (Year 2020) with SR-905 [Phases 1A & 1B] Conditions refers to that condition which are anticipated to exist by the year 2020. This condition assumes Phase 1A and 1B of the SR-905 facility are constructed and operational. The traffic forecast for this scenario has been prepared utilizing a SANDAG Series 11 model assuming development within the Otay Mesa area of San Diego County would continue to grow based on the high scenario growth rate per the Economics Research Associates (ERA) *Addendum to Real Estate Market Analysis*. (See Section V for more details on the SANDAG 2020 modeling assumptions.)

Year 2030 Conditions refers to the conditions and traffic volumes that will exist under 2030 conditions without the proposed project. All roadway segments were assumed to be built out to their classifications as identified in the *Traffic Assessment Update for the East Otay Mesa Specific Plan Amendment 2007*, prepared by D&A for the Department of Public Works at the County of San Diego. The traffic forecast for 2030 conditions was prepared from a SANDAG Series 10 model based on the 2030 Mobility Emphasis Network assuming build-out of land uses within the County and City of San Diego. Since the proposed project is consistent with the EOMSP, the 2030 condition includes the traffic generated by the proposed project. Therefore, project traffic was subtracted to get the 2030 conditions analysis.

Year 2030 with Project Conditions refers to those conditions which includes the 2030 traffic volumes and lane configurations plus the traffic generated by full build out (Units 1-5) of the proposed project.

LEVEL OF SERVICE

Level of Service (LOS) is a professional industry standard by which the operating conditions of a given roadway segment or intersection is measured. Level of Service is defined on a scale of A to F; where LOS A represents the best operating conditions and LOS F represents the worst operating conditions. LOS A facilities are characterized as having free flowing traffic conditions with no restrictions on maneuvering or operating speeds; traffic volumes are low and travel speeds are high. LOS F facilities are characterized as having forced flow with many stoppages and low operating speeds. Table 1 shows the delay, miles per hour (mph), and ADT ranges that are equivalent to each Level of Service.

In general, the region-wide goal for an acceptable Level of Service on all roadway segments and intersections is “D.”

According to page XII 4-16 and XII 4-17 of the San Diego County General Plan Public Facility Element “A LOS ‘C’, which allows for stable traffic flow with room to maneuver, is generally an accepted level to strive for in new development. However, there are some cases where development cannot achieve a LOS ‘C’ on off-site roadways. For instance, there are areas where the existing development pattern precludes the addition of lanes or other mitigation or when the community is opposed to certain improvements to maintain a LOS ‘C’. In these cases a Level of Service ‘D’ is acceptable on off-site roadways.” A copy of excerpts from the County’s Public Facility Element can be found in Appendix A.

Table 1 – Level of Service Ranges				
LOS	Intersections		Roadway Segments	
	Signalized -Delay (sec/veh) ¹	Unsignalized Delay (sec/veh) ¹	Daily	Peak Hour
			Average Daily Traffic (ADT) ²	Arterial Avg. Travel Speed (mph) ³
A	Less than or equal to 10.0	Less than or equal to 10.0	Less than 1,900	Greater Than 35
B	10.1 to 20.0	10.1 to 15.0	1,901 to 4,100	Greater Than 28 to 35
C	20.1 to 35.0	15.1 to 25.0	4,101 to 7,100	Greater Than 22 to 28
D	35.1 to 55.0	25.1 to 35.0	7,101 to 10,900	Greater than 17 to 22
E	55.1 to 80.0	35.1 to 50.0	10,901 to 16,200	Greater than 13 to 17
F	Greater than 80.0	Greater than 50.1	Greater than 16,200	Less Than or Equal to 13
¹ The delay ranges shown are based on the 2000 Highway Capacity Manual (HCM) ² The volume ranges are based on the County of San Diego Circulation Element of a Light Collector, the average daily volume ranges for the other roadway classifications has been provided in Appendix A. ³ The average travel speeds shown are based on the 2000 HCM. LOS = Level of Service; mph = miles per hour; sec/veh=seconds per vehicle;				

ANALYSIS METHODOLOGY

Even though the proposed project lies within the County of San Diego, the roadway segments in the vicinity of the proposed project are located in both the jurisdictions of the County and City of San Diego. Therefore, for the purpose of this report, the daily traffic volumes of the roadway segments in the vicinity of the project were compared to the County or City of San Diego Level of Service classification thresholds, depending on whether the roadway segment is located within the County's or City's jurisdiction.

The daily (24 hour) traffic count sheets, a copy of the City of San Diego "Roadway Classifications, Levels of Service, and Average Daily Traffic", and a copy of the "Summary of County of San Diego Public Road Standards" are included in Appendix A.

The arterial roadway segment levels of service analysis for the segments of Interim SR-905 (Otay Mesa Road) were determined using the Synchro version 6. The arterial roadway segment level of service analysis methodology utilized by Synchro is based on the 2000 Highway Capacity Manual (HCM).

The levels of service for the freeways (SR-125, SR-905 south of Otay Mesa Road, and the new SR-905) were determined based on the California Department of Transportation (Caltrans) District 11 procedures. Caltrans determines the level of service for freeways based on the volume-to-capacity ratio which considers the variables such as the peak hour volume of traffic, the number of travel lanes, the directional split of traffic, and percentage of heavy vehicles.

Synchro version 6 was utilized to analyze the morning and afternoon peak hour conditions of the intersections in the project vicinity. The signalized intersection methodology defines LOS based on delay using variables such as lane configuration, traffic volumes, and signal timings. The unsignalized intersection methodology defines LOS based on the longest delay experienced by any single movement. Since the Synchro program calculates the average delay per vehicle, there may be instances where the Synchro analysis will show a reduction in delay with the addition of more traffic. This phenomenon occurs when the additional traffic is added to a movement that experiences a shorter amount of delay, thereby decreasing the intersection's average delay per vehicle (i.e. a larger amount of vehicles will have to wait a shorter time while only a few vehicles have to wait an extended period of time). It should be noted that the Synchro program is based on the 2000 Highway Capacity Manual (HCM).

It should be noted the Airway Road/Sanyo Avenue intersection is currently an all-way stop-controlled intersection with three (3) westbound approach lanes (1 left, 1 through, and 1 right). The Highway Capacity Manual (HCM) and Synchro software, however, do not currently provide an analysis methodology to analyze an all-way stop-controlled intersection with more than two (2) approach lanes. Therefore, for analysis purposes, the westbound approach was assumed to have one (1) westbound shared left-through lane and one (1) westbound right turn lane. This results in a delay that is slightly larger than what would be experienced in the field.

Since SR-905 and SR-125 are state owned facilities, to meet the requirements of Caltrans, the Intersecting Lane Vehicles (ILV) analysis was utilized to assess the operating conditions of the intersections along Otay Mesa Road (Interim SR-905) between Britannia Boulevard and the SR-905 connector and the intersections of SR-905 at Siempre Viva Road. Since the control/ownership of Otay Mesa Road (Interim SR-905) between Britannia Boulevard and the SR-905 connector will be relinquished to the City of San Diego once the new SR-905 facility is constructed, the ILV analysis was only completed for these intersections under existing and existing plus project conditions. It should be noted that the ILV analysis is only applicable to signalized intersections.

The Intersecting Lane Vehicle method determines the operating condition of an intersection based upon the number of intersecting vehicles that enter the intersection per lane during the hour (ILV/hr). Where less than 1200 ILV/hr represents stable flow, 1200 to 1500 ILV/hr represents unstable flow with considerable delays possible, and 1500 ILV/hr represents capacity, or stop-and-go operation with severe delay and heavy congestion. Since the upper limits of the ILV analysis is based on the premise of an operating condition of LOS C or better, and since LOS D was considered an acceptable level of service, the ILV analysis was not utilized to determine project significance.

REPORT ORGANIZATION

Following this section, Section II examines the potential trips generated by the proposed project and it defines the trip distribution assumptions. Section III evaluates the existing roadway characteristics and traffic conditions without the project. Section IV evaluates the existing plus project conditions. Section V evaluates the cumulative (2020) with SR-905 [Phases 1A & 1B] conditions. Section VI briefly describes the year 2030 conditions. Section VII addresses the project's access and internal circulation, Section VIII summarizes the construction traffic associated with the proposed project. Section IX summarizes the recommended mitigation measures for the direct and cumulative impacts of the project, and Section X summarizes the report's findings and conclusions.

SECTION II – PROJECT RELATED CONDITIONS

TRIP GENERATION

The trip generation potential for the industrial component of the project was based on daily and peak hour trip generation rates obtained from the *(Not So) Brief Guide of Traffic Generators for the San Diego Region* published by the San Diego Association of Governments (SANDAG) in April 2002 and the trip generation potential for the truck parking component of the project was based on daily and peak hour trip generation rates obtained from the *Trip Generation Manual* published by the City of San Diego in May 2003.

Grading for the proposed project will be completed in two phases. Grading for Phase 1 is comprised of three final maps (Units 1, 2, and 3) and Grading for Phase 2 comprises two final maps (Units 4 and 5). The project proposes to construct the project in the following timeline: construct Unit 1 by 2011, construct Unit 2 by 2012, construct Unit 3 by 2013, and construct Units 4 and 5 by 2014.

As shown in Table 2, in the near term when the developer will be utilizing the area set aside for the future SR-11 right-of-way, the proposed project is estimated to generate 21,279 daily trips, 2,853 AM peak hour trips, and 3,017 PM peak hour trips. Once the SR-11 facility is constructed, the lots being used as a Truck Parking Facility (lots 54, 55 and 56) will no longer be utilized as it will be located within the right-of-way for the future SR-11 and the project will generate 18,768 daily trips, 2,627 AM peak hour trips, and 2,816 PM peak hour trips. It should be noted, however, that all traffic impacts were based on the assumption that the truck parking facility would be being utilized and generating traffic.

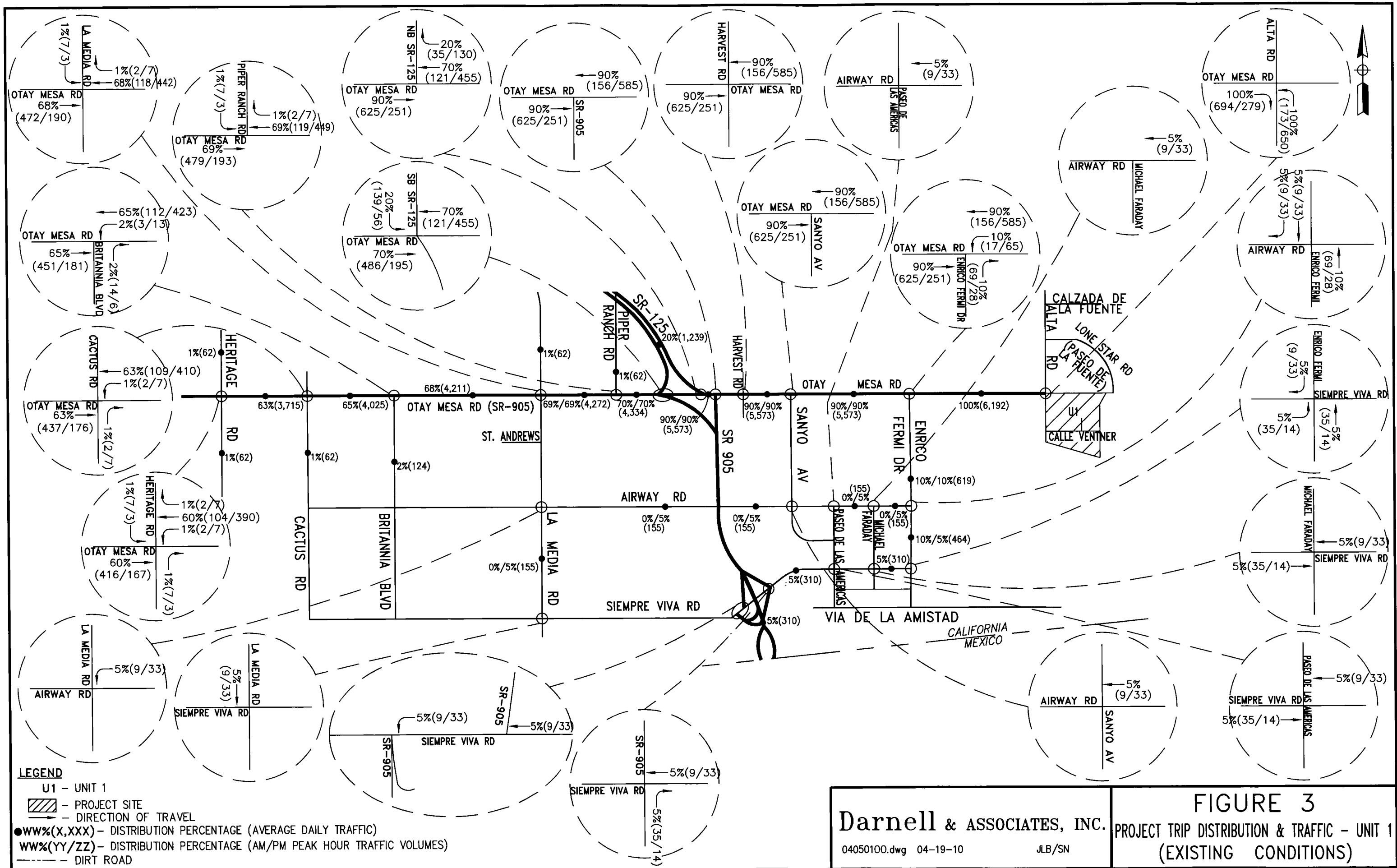
TRIP DISTRIBUTION/TRIP ASSIGNMENT

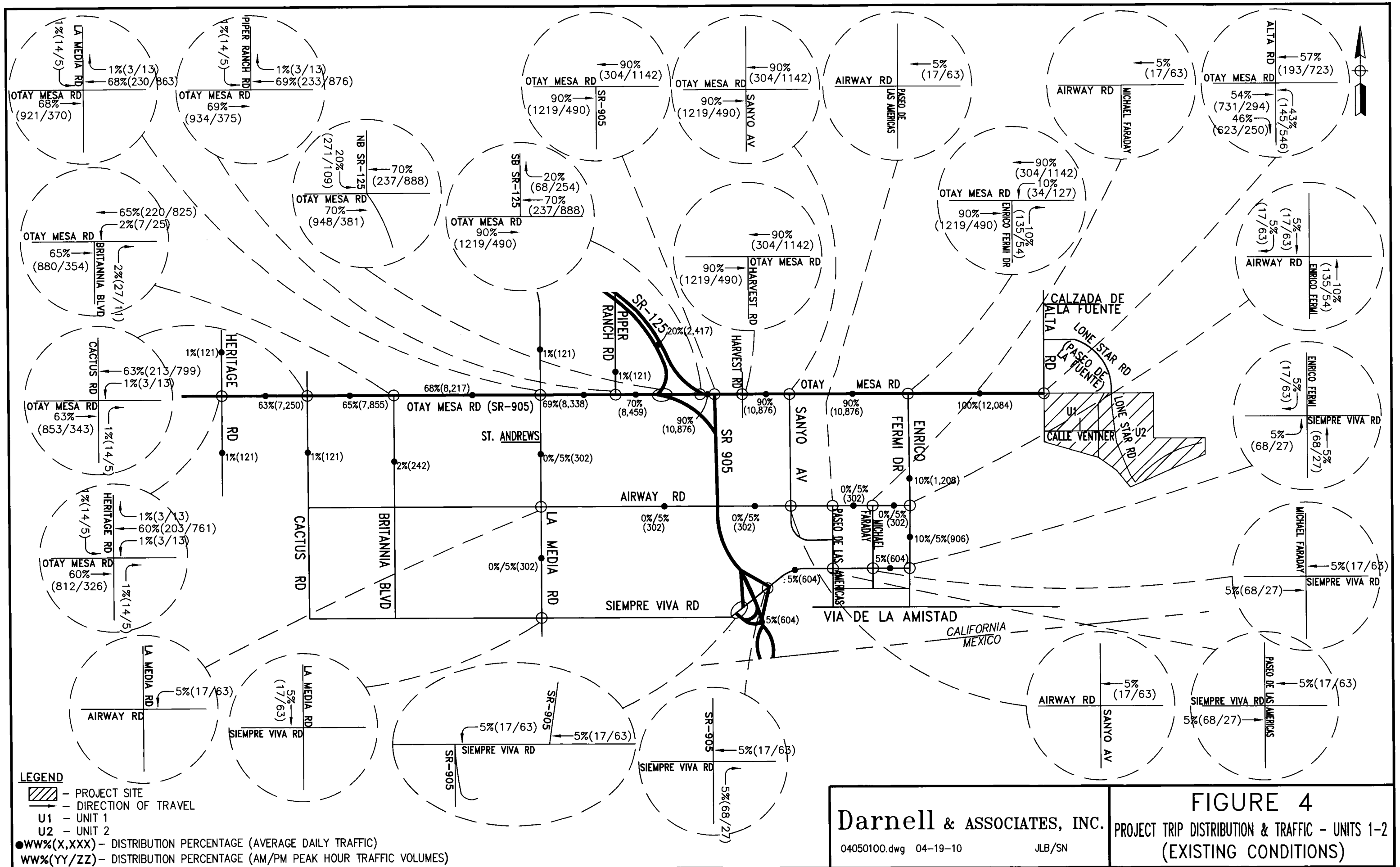
The project trip distribution for the cumulative with SR-905 conditions is based on a SANDAG Select Zone forecast for the year 2020 and for the buildout (year 2030) conditions is based on a SANDAG Select Zone forecast for the year 2030. Figure 3 illustrates the project trip distribution percentages and project related traffic for Unit 1 of the proposed project under existing and cumulative without SR-905 conditions. The trip distribution percentages and project related traffic for Units 2-5 of the proposed project under existing conditions are illustrated in Figures 4 through 7.

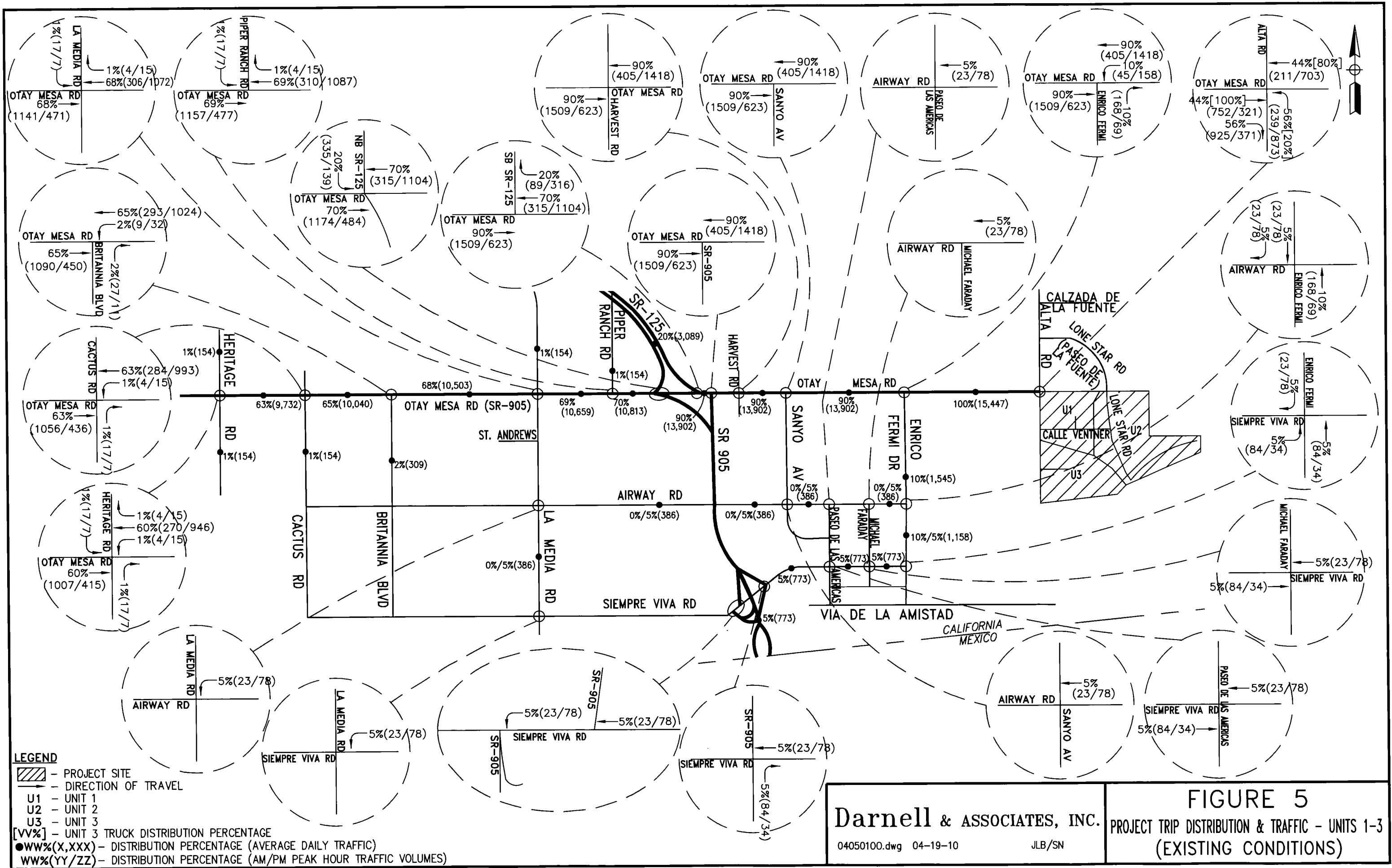
Under cumulative (Year 2020) conditions, Phases 1A and 1B of the SR-905 were assumed to be completed and operational. In addition, the SR-905/Airway Road underpass was assumed to be completed. Figure 8 illustrates the project trip distribution percentages and project related traffic for the proposed project under cumulative (Year 2020) with SR-905 [Phases 1A & 1B] conditions.

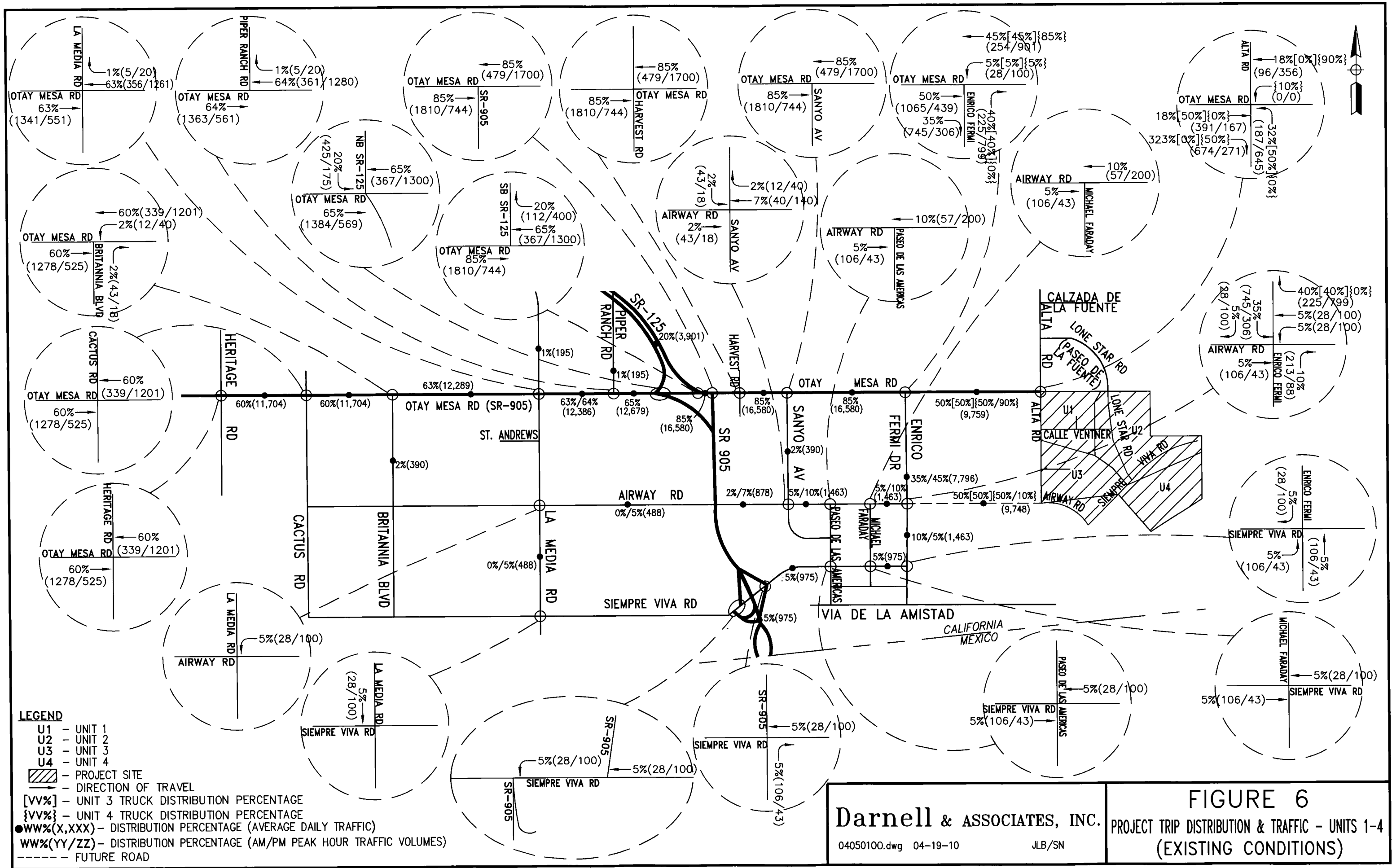
Under 2030 conditions it was assumed that both State Route 11 and the re-aligned State Route 905 would be constructed and that the full project would be completely built out (all five units). The daily trip distributions percentages and project related traffic for Units 1-5 along the roadway segments in the vicinity of the project under 2030 conditions are illustrated in Figure 9.

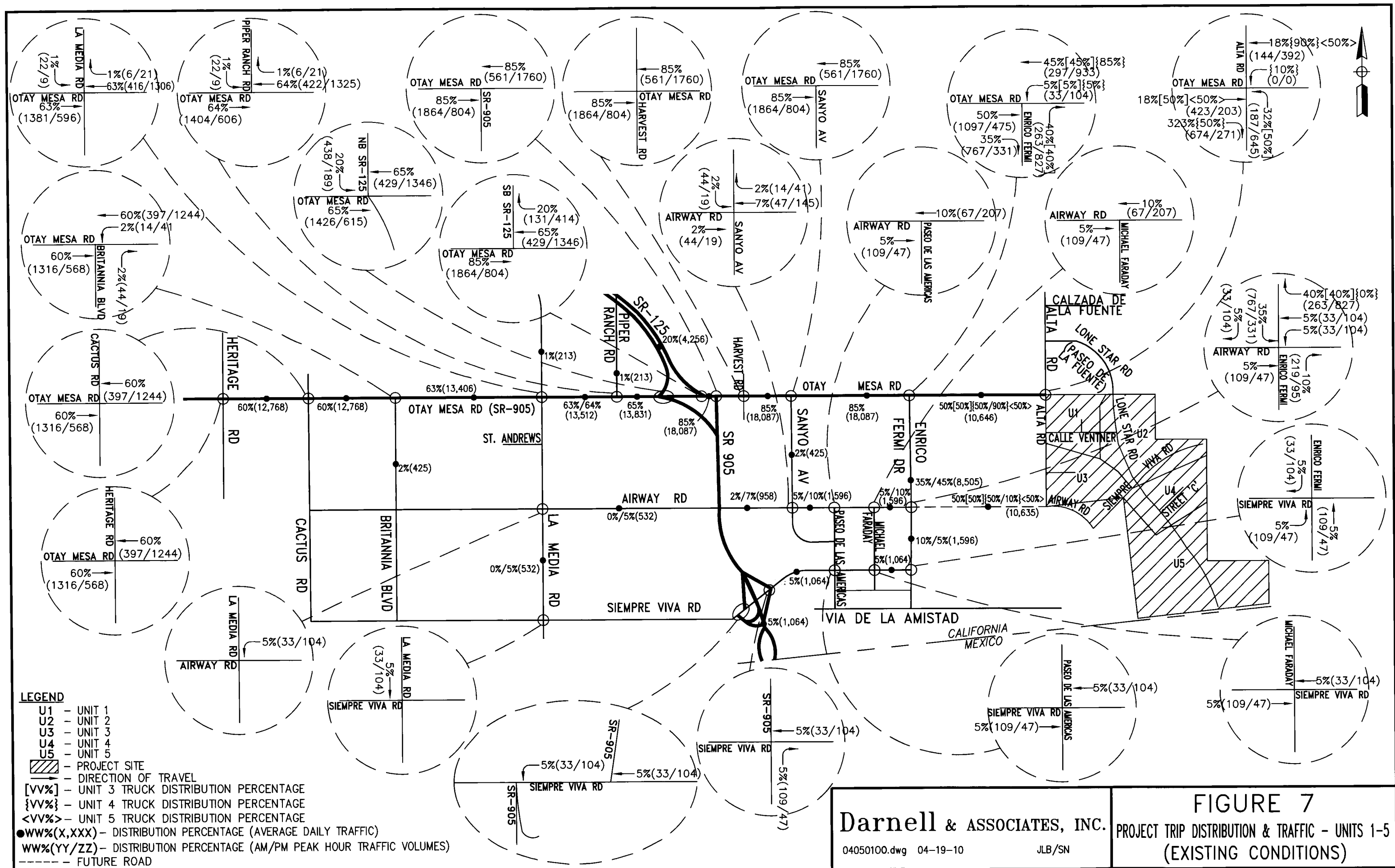
Table 2 – Trip Generation Rates & Calculations Summary								
Trip Generation Rates								
Land Use	Daily	AM Peak Hour			PM Peak Hour			
		Total – % of Daily	%In	%Out	Total – % of Daily	%In	%Out	
Technology Business Park ¹	120 trips/Acre	14%	80%	20%	15%	30%	70%	
Truck Parking ²	30 trips/Acre	9%	40%	60%	8%	50%	50%	
Trip Generation Calculations Summary								
Land Use	Total No Of Units	Daily	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
Unit 1								
Technology Business Park	51.6 AC	6,192	867	694	173	929	279	650
Sub Total Unit 1	51.6 AC	6,192	867	694	173	929	279	650
Unit 2								
Technology Business Park	49.1 AC	5,892	825	660	165	884	265	619
Sub Total Unit 2	49.1 AC	5,892	825	660	165	884	265	619
Total Units 1-2	100.7 AC	12,084	1,692	1,354	338	1,813	544	1,269
Unit 3								
Technology Business Park	22.1 AC	2,652	371	297	74	398	119	279
Truck Parking	23.7 AC	711	64	26	38	57	29	28
Sub Total Unit 3	45.8 AC	3,363	435	323	112	455	148	307
Total Units 1-3	146.5 AC	15,447	2,127	1,677	450	2,268	692	1,576
Unit 4								
Technology Business Park	33.6 AC	4,032	564	451	113	605	182	423
Truck Parking	0.9 AC	27	2	1	1	2	1	1
Sub Total Unit 4	34.5 AC	4,059	566	452	114	607	183	424
Total Units 1-4	181.0 AC	19,506	2,693	2,129	564	2,875	875	2,000
Unit 5								
Truck Parking	59.1 AC	1,773	160	64	96	142	71	71
Sub Total Unit 5	59.1 AC	1,773	160	64	96	142	71	71
Total Units 1-5	240.1 AC	21,279	2,853	2,193	660	3,017	946	2,071
w/o Truck Parking Total Units 1-4	156.4 AC	18,768	2,627	2,102	525	2,816	845	1,971
¹ SANDAG Rates ² City of San Diego Rates for the Otay Mesa Region AC = Acres								

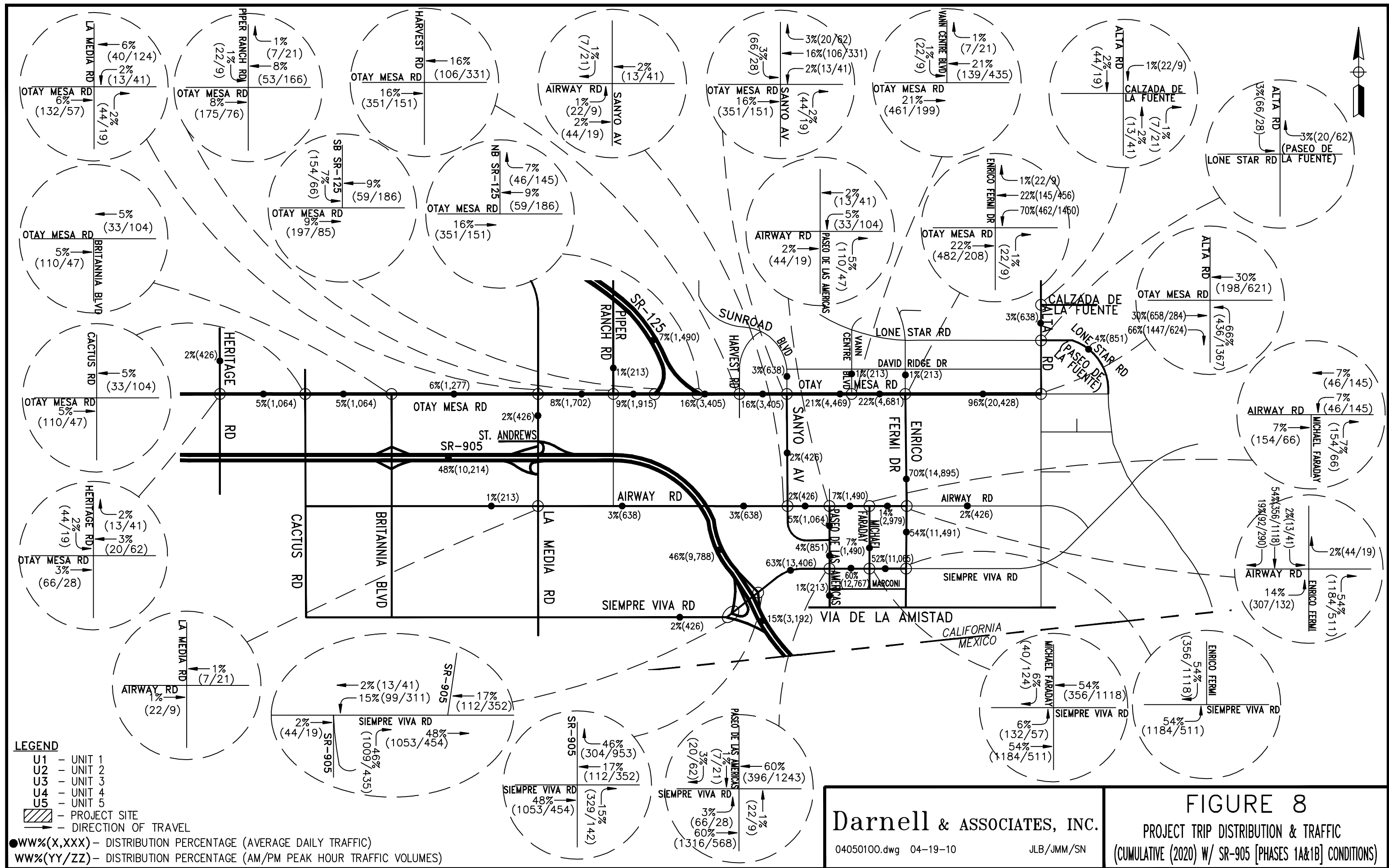












STUDY AREA

To determine the study area for the project D&A utilized the County of San Diego's criteria which recommends the inclusion of all transportation facilities that receive 25 or more peak hour trips from the proposed project, and the City of San Diego's criteria which requires the analysis of all regionally significant arterial system segments and intersections where the proposed project will add 50 or more peak hour trips in either direction and all mainline freeway locations where the project will add 150 or more peak hour trips in either direction. The County or City criteria was utilized dependent on the jurisdiction which the roadway segment or intersection was located in.

Based on the County and City's criteria and a review of Figures 3-7, it was determined that under existing conditions, the study area for Unit 1 would need to include all roadway segments and intersections along Interim SR-905 (Otay Mesa Road) between Heritage Road and the SR-125, all segments and intersection along Otay Mesa Road (Old Otay Mesa Road) between the SR-125 and the project site, and all segments and intersections along Enrico Fermi Drive between Otay Mesa Road (Old Otay Mesa Road) and Siempre Viva Road. With Units 1-2 and Units 1-3 the study area would need to expand to include all segments and intersections along Siempre Viva Road between the SR-905 southbound ramp and Enrico Fermi Drive as well as the Airway Road/La Media Road and Siempre Viva Road/La Media Road intersections. With Units 1-4 and Units 1-5, the study area would need to expand to include the roadway segments and intersections along Airway Road between the SR-905 and the project site.

Based on a review of Figure 8, it was determined that under cumulative with SR-905 Phases 1A & 1B conditions the study area would need to include all roadway segments and intersections along Otay Mesa Road and Otay Mesa Road (Old Otay Mesa Road) between Heritage Road and Alta Road, all segments and intersections along Airway Road between SR-905 and the project site, all segments and intersections along Siempre Viva Road between the SR-905 southbound ramp and the project site, and all segments and intersections along Alta Road between Calzada De La Fuente and the project site. It should be noted that the Siempre Viva Road/La Media Road intersection does not need to be included in the study area under cumulative with SR-905 Phases 1A & 1B conditions.

See Table 3 for a summary of the study area for each unit and study scenario. To maintain consistency, the same intersections and roadway segments were analyzed for all scenarios.

Table 3 – Summary of Study Area Intersections by Scenario			
Intersection	Criteria Utilized to Determine Study Area	Peak Hour Trip Threshold	Scenario Where Analysis is Required
Interim SR-905 @ Heritage Rd	City	50	E+1, E+1-2, E+1-3, E+1-4, E+1-5, C w/905
Interim SR-905 @ Cactus Rd	City	50	E+1, E+1-2, E+1-3, E+1-4, E+1-5, C w/905
Interim SR-905 @ Britannia Blvd	City	50	E+1, E+1-2, E+1-3, E+1-4, E+1-5, C w/905
Interim SR-905 @ La Media Rd	City	50	E+1, E+1-2, E+1-3, E+1-4, E+1-5, C w/905
Interim SR-905 @ Piper Ranch Rd	County	25	E+1, E+1-2, E+1-3, E+1-4, E+1-5, C w/905
Otay Mesa Rd @ SR125 SB	County	25	E+1, E+1-2, E+1-3, E+1-4, E+1-5, C w/905
Otay Mesa Rd @ SR 125 NB	County	25	E+1, E+1-2, E+1-3, E+1-4, E+1-5, C w/905
Otay Mesa Rd @ SR-905 Conector	County	25	E+1, E+1-2, E+1-3, E+1-4, E+1-5
Otay Mesa Rd @ Harvest Rd	County	25	C w/905
Otay Mesa Rd @ Sanyo Av	County	25	E+1, E+1-2, E+1-3, E+1-4, E+1-5, C w/905
Otay Mesa Rd @ Vann Centre Blvd	County	25	C w/905
Otay Mesa Rd @ Enrico Fermi Dr	County	25	E+1, E+1-2, E+1-3, E+1-4, E+1-5, C w/905
Otay Mesa Rd @ Alta Rd	County	25	E+1, E+1-2, E+1-3, E+1-4, E+1-5, C w/905
Otay Mesa Rd @ Paseo De La Fuente-Lone Star Rd	County	25	E+1, E+1-2, E+1-3, E+1-4, E+1-5
Airway Rd @ La Media Rd	City	50	E+1, E+1-2, E+1-3, E+1-4, E+1-5, C w/905
Airway Rd @ Sanyo Av	City	50	E+1-4, E+1-5, C w/905
Airway Rd @ Paseo De Las Americas	City	50	E+1-4, E+1-5, C w/905
Airway Rd @ Michael Faraday	City	50	E+1-4, E+1-5, C w/905
Airway Rd @ Enrico Fermi Dr	County	25	E+1, E+1-2, E+1-3, E+1-4, E+1-5, C w/905
Airway Rd @ Alta Rd	County	25	E+1-4, E+1-5
Siempre Viva Rd @ La Media Rd	City	50	E+1, E+1-2, E+1-3, E+1-4, E+1-5
SR-905 SB Ramp @ EB Siempre Viva	City	50	E+1, E+1-2, E+1-3, E+1-4, E+1-5, C w/905
SR-905 SB Ramp @ WB Siempre Viva	City	50	E+1, E+1-2, E+1-3, E+1-4, E+1-5, C w/905
SR-905 NB Ramp @ Siempre Viva	City	50	E+1, E+1-2, E+1-3, E+1-4, E+1-5, C w/905
Siempre Viva @ Paseo De Las Americas	City	50	E+1, E+1-2, E+1-3, E+1-4, E+1-5, C w/905
Siempre Viva @ Michael Faraday	City	50	E+1, E+1-2, E+1-3, E+1-4, E+1-5, C w/905
Siempre Viva Rd @ Enrico Fermi Dr	County	25	E+1, E+1-2, E+1-3, E+1-4, E+1-5, C w/905
Siempre Viva Rd @ Airway Rd	County	25	E+1-4, E+1-5, C w/905
Alta Rd @ Calzada De La Fuente	County	25	C w/905
Alta Rd @ Paseo De La Fuente	County	25	C w/905
E+1 = Existing + Project Unit 1 E+1-2 = Existing + Project Units 1-2 E+1-3 = Existing + Project Units 1-3 E+1-4 = Existing + Project Units 1-4 E+1-5 = Existing + Project Units 1-5 C w/905 = Cumulative w/SR-905 [Phases 1A & 1B]			

SECTION III – EXISTING CONDITIONS

This section of the traffic study is intended to assess the existing conditions of the roadways within the vicinity of the project to determine travel flow difficulties, if any, that exist prior to adding the traffic generated by the proposed project. The existing conditions analysis establishes a base condition that is used to assess the other scenarios discussed in this report. Darnell & Associates, Inc (D&A) conducted a field review of the area surrounding the project in January 2010. Figure 10 illustrates the existing roadway conditions in the project vicinity.

EXISTING ROADWAY CHARACTERISTICS

The key segments analyzed in the study area are identified below:

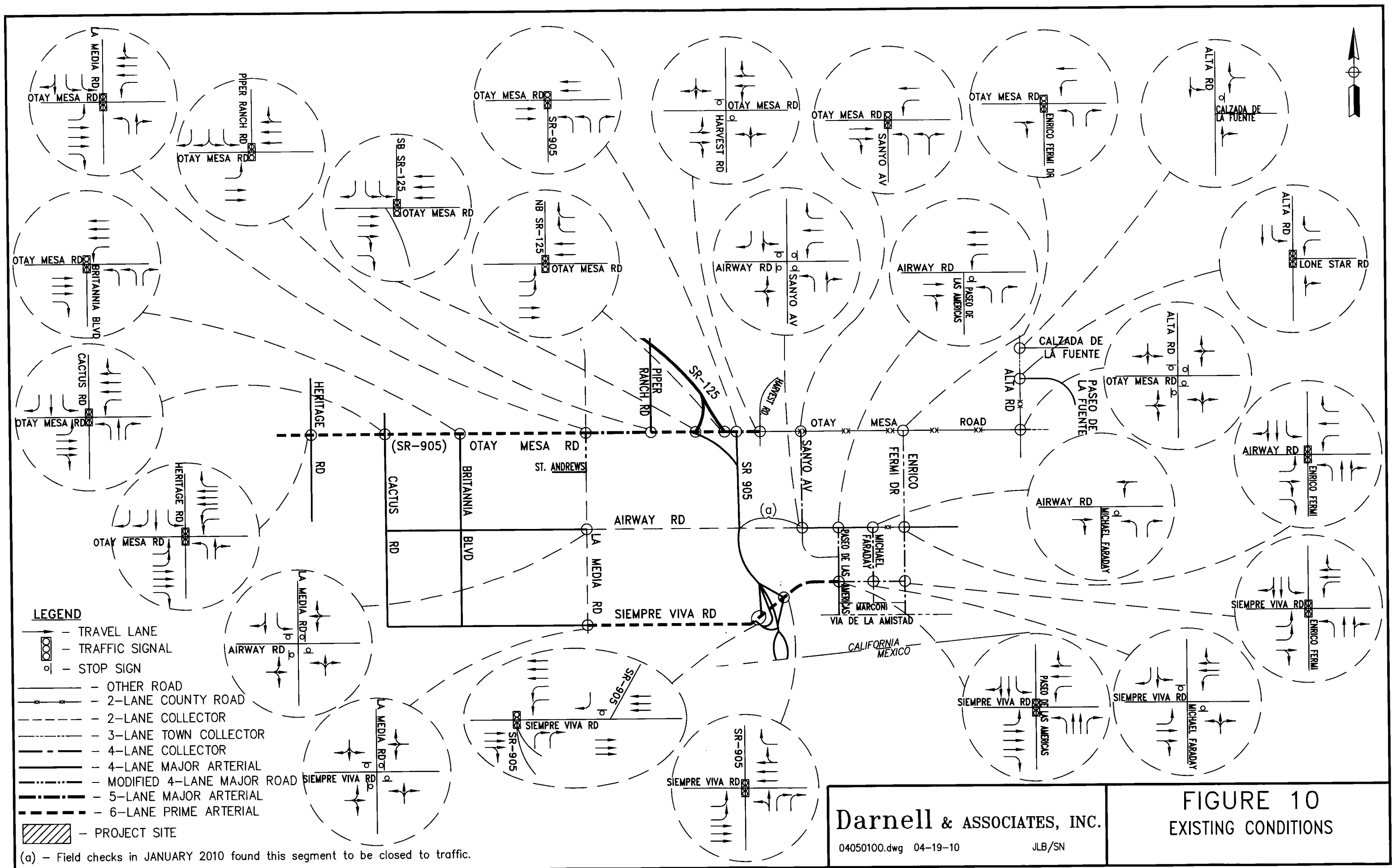
Interim State Route 905 (SR-905)/Otay Mesa Road (SC-1120) is an east-west six-lane expressway which extends from Interstate 5 to the City of San Diego Otay Mesa Community. Approximately one mile east of Interstate 805, there is a break in the route and SR-905 becomes Otay Mesa Road. The posted speed limit on Otay Mesa Road is 55 miles per hour (mph).

The study refers the segment of SR-905/Otay Mesa Road from Heritage Road to SR-125 (Old Otay Mesa Road) as interim SR-905 (Otay Mesa Road) and the segment from SR-125 (Old Otay Mesa Road) to Siempre Viva Road as SR-905 under existing conditions. It is at the junction with SR-125 where SR-905 and Otay Mesa Road split from one another (Otay Mesa Road continues traveling in the east-west direction, while SR-905 becomes a north-south roadway).

Interim SR-905 (Otay Mesa Road) is improved to six lane Prime Arterial standards from west of Caliente Avenue to approximately Piper Ranch Road. Immediately east of Piper Ranch Road, Interim SR-905 (Otay Mesa Road) provides five (5) travel lanes (2 eastbound lanes and 3 westbound lanes), however as it traverses easterly towards the SR-125; Otay Mesa Road widens to provide a total of seven (7) travel lanes (4 eastbound lanes and 3 westbound lanes). For analysis purposes, this segment of Interim SR-905 (Otay Mesa Road) was assumed to have the capacity equivalent to that of a six-lane Prime Arterial. (Copies of Caltrans striping concepts for the segment of Otay Mesa Road between Piper Ranch Road and Harvest Road are provided in Appendix P.) From its junction at SR-125 to the international border, SR-905 is a four-lane Major Arterial.

The segment of interim SR-905/Otay Mesa Road from west of Heritage Road to approximately Piper Ranch Road and the segment of SR-905 from Otay Mesa Road to south of Siempre Viva Road are currently located within the jurisdictions of both the City of San Diego and Caltrans, while the segments from approximately Piper Ranch Road to SR-125 is located with the jurisdictions of the City of San Diego, the County of San Diego, and Caltrans. In the City of San Diego Circulation Element, a six-lane Prime Arterial has a capacity of 60,000 Average Daily Trips (ADT) at Level of Service (LOS) E with a cross section of 102 feet (102') curb to curb and a right-of-way of 122 feet (122'). A four-lane Major Arterial has a capacity of 40,000 ADT at LOS E with a cross section of 78 feet (78') curb to curb and a right-of-way of 98 feet (98'). In the County of San Diego Circulation Element a six-lane Prime Arterial has a capacity of 57,000 ADT at LOS E.

Otay Mesa Road (Old Otay Mesa Road) (SC-1120) is basically a two-lane roadway located within the jurisdictions of the County and City of San Diego. The segment from SR-905 to approximately 1,200 feet east of Sanyo Avenue is located within both jurisdictions, with the centerline of the existing road as the boundary. Otay Mesa Road has a varying pavement width of 40 to 64 feet. The posted speed limit on this section of Otay Mesa Road is 55 mph.



The segment of Otay Mesa Road (Old Otay Mesa Road) between the SR-125 Southbound ramp and the Interim SR-905 connection is currently constructed to provide six (6) travel lanes (2 eastbound lanes and 4 westbound lanes). The segment of Otay Mesa Road (Old Otay Mesa Road) between the Interim SR-905 connection and Harvest Road is currently constructed to provide five (5) travel lanes (2 eastbound lanes and 3 westbound lanes). For the purpose of analysis, these segments of Otay Mesa Road (Old Otay Mesa Road) were assumed to have the capacity equivalent to that of a 5-lane Major Arterial, approximately 47,000 ADT at LOS E (the half-way point between a 4-lane Major Road and a 6-lane Prime Arterial).

The current capacity on the City two-lane segments of Otay Mesa Road (Old Otay Mesa Road) is estimated to be equivalent to that of a two-lane Collector Road with no fronting property, capacity of 10,000 ADT at LOS E. The current capacity on the County two-lane segments of (Otay Mesa Road) is estimated to be equivalent to that of a Light Collector, capacity of 16,200 ADT at LOS E. A two-lane Collector for the City and a Light Collector for the County have the same cross section of 40 feet (40') curb to curb, and 60 feet (60') of right-of-way.

Based on the East Otay Mesa Specific Plan, the ultimate classification of the segment of Otay Mesa Road between Harvest Road and Enrico Fermi Drive is classified as a Prime Arterial. In the East Otay Mesa Specific Plan, this segment is a Prime Arterial with a capacity of 57,000 ADT at LOS E, with a modified cross section of 90 feet (90') curb to curb and 110 feet (110') of right-of-way. Between Enrico Fermi Drive and Alta Road, Otay Mesa Road is classified as a four-lane Major Road. A Major Road has a capacity of 37,000 ADT at LOS E, with a cross section of 78 feet (78') curb to curb and 98 feet (98') of right-of-way.

Airway Road (SC-2300) is an east-west roadway that is located within the jurisdiction of both the City of San Diego (west of Paseo de Las Americas) and the County of San Diego (between Paseo de Las Americas to Enrico Fermi Drive). Airway Road, between La Media Road and Avenida Costa Azul, is a two-lane undivided roadway. Between Avenida Costa Azul and Piper Ranch Road, Airway Road widens to a four-lane roadway with a raised median. East of Piper Ranch Road, for approximately 150 feet, Airway Road provides one (1) eastbound lane and two (2) westbound lanes. Between State Route 905 and Sanyo Avenue, Airway Road is only striped to provide two travel lanes, however, the westbound lane is approximately 29 feet wide, and the eastbound lane is approximately 25 feet wide. Airway Road between Sanyo Avenue and Michael Faraday Drive has been improved to the standards of a four lane Major Road. Between Michael Faraday Drive and Enrico Fermi Drive, Airway Road narrows back down to a two-lane roadway. Just east of Enrico Fermi Drive to its current terminus, Airway Road is currently constructed as a four-lane roadway with a raised median.

For the purpose of analysis, the segment of Airway Road between La Media and Sanyo Avenue was assumed to have the capacity equivalent to that of a two lane Collector Road with a capacity of 15,000 ADT at LOS E. The segment between Sanyo Avenue and Michael Faraday Drive was assumed to have the capacity equivalent to the City's classification of a Major Arterial with a capacity of 40,000 ADT at LOS E. The segment between Michael Faraday Drive and Enrico Fermi Drive was assumed to have the capacity equivalent to that of the County of San Diego's Light Collector with a capacity of 16,200 ADT at LOS E with a cross section of 40 feet (40') curb to curb, with 60 feet (60') right-of-way. It should be noted that Airway Road will be reconstructed as to no longer be provided with access to State Route 905.

In the East Otay Mesa Specific Plan Amendment, Airway Road has the ultimate classification as a four-lane Major facility with a capacity of 40,000 ADT at LOS E for the segment located within the City and a capacity of 37,000 ADT at LOS E for the segment located within the County. The cross section for a four-lane Major facility is 78 feet (78') curb to curb, with 98 feet (98') right-of-way.

Siempre Viva Road is an east-west roadway that is located under the jurisdiction of the City of San Diego. From west of SR-905 to Paseo De Las Americas, Siempre Viva Road is a six-lane facility with a cross-section equivalent to that of a Prime Arterial, capacity of 60,000 ADT at LOS E. Currently, east of Paseo De Las Americas to Enrico Fermi Drive, Siempre Viva Road is a four-lane road with a cross-section equivalent to that of a Collector Road, capacity of 30,000 ADT at LOS E. This segment of Siempre Viva Road is planned as a six-lane facility with a cross-section equivalent to that of a Prime Arterial, capacity of 60,000 ADT at LOS E. Just east of Enrico Fermi Drive to the CHP facility located, Siempre Viva Road is currently constructed to provide one (1) eastbound lane and two (2) westbound travel lanes. From the CHP facility to Airway Place, Siempre Viva Road is constructed to provide two (2) westbound travel lanes. For purposes of analysis, the segment of Siempre Viva Road between Enrico Fermi Drive and Airway Place was assumed to have the capacity equivalent to that of a Light Collector, 16,200 ADT at LOS E.

La Media Road (SA 1103) is a north-south facility that is currently under construction for the SR-905 interchange. La Media Road immediately south of Otay Mesa Road currently provides two (2) northbound travel lanes (1 northbound left, and 1 northbound shared through-right) and three (3) southbound lanes (2 southbound through and 1 southbound right turn lane) along with a partially painted median. Just north of Saint Andrews Avenue and the future SR-905 westbound off ramp, La Media Road provides one (1) northbound travel lane, and two (2) southbound travel lanes (1 southbound through and 1 southbound right) along with a painted median. For purposes of analysis, the segment of La Media Road between Otay Mesa Road and Saint Andrews Avenue/future SR-905 westbound off ramp was assumed to have the capacity equivalent to that of a 4-lane Collector, 30,000 ADT at LOS E. La Media Road from Saint Andrews Avenue/SR-905 westbound off ramp to Siempre Viva Road is currently constructed as a two-lane undivided roadway that has a classification equivalent to that of a 2-lane Collector, capacity 10,000 ADT at LOS E.

Upon completion of the SR-905 interchange, La Media Road from Otay Mesa Road to Saint Andrews Avenue will still provide two (2) northbound travel lanes (1 northbound left, and 1 northbound shared through-right) and three (3) southbound lanes (2 southbound through and 1 southbound right turn lane) along with a partially painted median immediately south of Otay Mesa Road. However, just north of Saint Andrews Avenue, La Media Road will be widened to provide two (2) northbound through lanes, three (3) southbound through lanes, one (1) southbound right turn lane, and a painted median. Therefore, upon completion of the SR-905 interchange, La Media Road from Otay Mesa Road to Saint Andrews Avenue (SR-905 westbound off ramp) is estimated to have a capacity equivalent to that of a modified 4-lane Collector, approximately 35,000 ADT at LOS E (the half-way point between a 4-lane Collector and a 4-lane Major Arterial).

Upon completion of the SR-905 interchange, La Media Road from Saint Andrews Avenue (SR-905 westbound off ramp) to the SR-905 eastbound ramp is a six-lane divided roadway that has a classification equivalent to that of a 6-lane Prime Arterial, capacity of 60,000 ADT at LOS E. La Media Road from approximately 300 feet (300') south of the proposed SR-905 eastbound ramp to Siempre Viva Road is constructed as a two-lane undivided roadway that has a classification equivalent to that of a 2-lane Collector, capacity 10,000 ADT at LOS E.

Sanyo Avenue is a north-south facility that is currently constructed as a four-lane undivided roadway between Otay Mesa Road (Old Otay Mesa Road) and Airway Road. The roadway segment of Sanyo Avenue between Otay Mesa Road (Old Otay Mesa Road) and Airway Road is under the City's jurisdiction and has the classification of a 4 lane Collector, capacity of 30,000 ADT at LOS E.

Enrico Fermi Drive (SA-1105) is constructed as a north-south facility. This roadway segment is split between County and City of San Diego jurisdictions. The segment north of Airway Road is under the County's jurisdiction and exists as a three lane roadway just south of Otay Mesa Road and north of Airway Road. Some portion of this roadway segment currently exists as a two lane roadway. For the purpose of analysis, the roadway segment under County's jurisdiction was analyzed as a Town Collector

(capacity of 19,000 ADT at LOS E). The segment of Enrico Fermi Drive, south of Airway Road is under the City's jurisdiction and exists as a 4 lane Major Arterial (capacity of 40,000 ADT at LOS E).

Enrico Fermi Drive has the ultimate classification in the East Otay Mesa Specific Plan Amendment as a four-lane Major facility with a capacity of 40,000 ADT at LOS E for the segment located within the City and a capacity of 37,000 ADT at LOS E for the segment located within the County. The cross section for a four-lane Major facility is 78 feet (78') curb to curb, with 98 feet (98') right-of-way. Per the East Otay Mesa Specific Plan Amendment adopted in August 2007, the segment of Enrico Fermi Drive between Otay Mesa Road and SR-11 is proposed as an Enhanced Major Road Facility that would have additional turn lanes to facilitate freeway access.

Alta Road (SR 1112) is a north-south roadway that is generally constructed as a two (2)-lane (one lane each direction) undivided roadway with a capacity of a Light Collector, 16,200 ADT at LOS E. The segment of Alta Road between Paseo De La Fuente and Calzada De La Fuente was widened to provide two (2) northbound travel lanes and one (1) southbound travel lane. This segment of Alta Road has a capacity equivalent to that of a Town Collector, 19,000 ADT at LOS E.

Based on the County Circulation Element, the ultimate classification of Alta Road between Lone Star Road/Paseo De La Fuente and Otay Mesa Road (Old Otay Mesa Road) is a four-lane Major Road with a bike trail within the east side of roadway, capacity of 37,000 ADT at LOS E. The ultimate classification of Alta Road between Lone Star Road/Paseo De La Fuente and Donovan State Prison Road is a four-lane Industrial Collector with a center left turn lane, capacity of 34,200 ADT at LOS E with a modified cross section of 62 feet (62') curb to curb and 86 feet (86') of right-of-way. North of State Donovan Road, the roadway segment of Alta Road is a four-lane Industrial Collector, capacity of 34,200 ADT at LOS E with a modified cross section of 58 feet (58') curb to curb and 84 feet (84') of right-of-way.

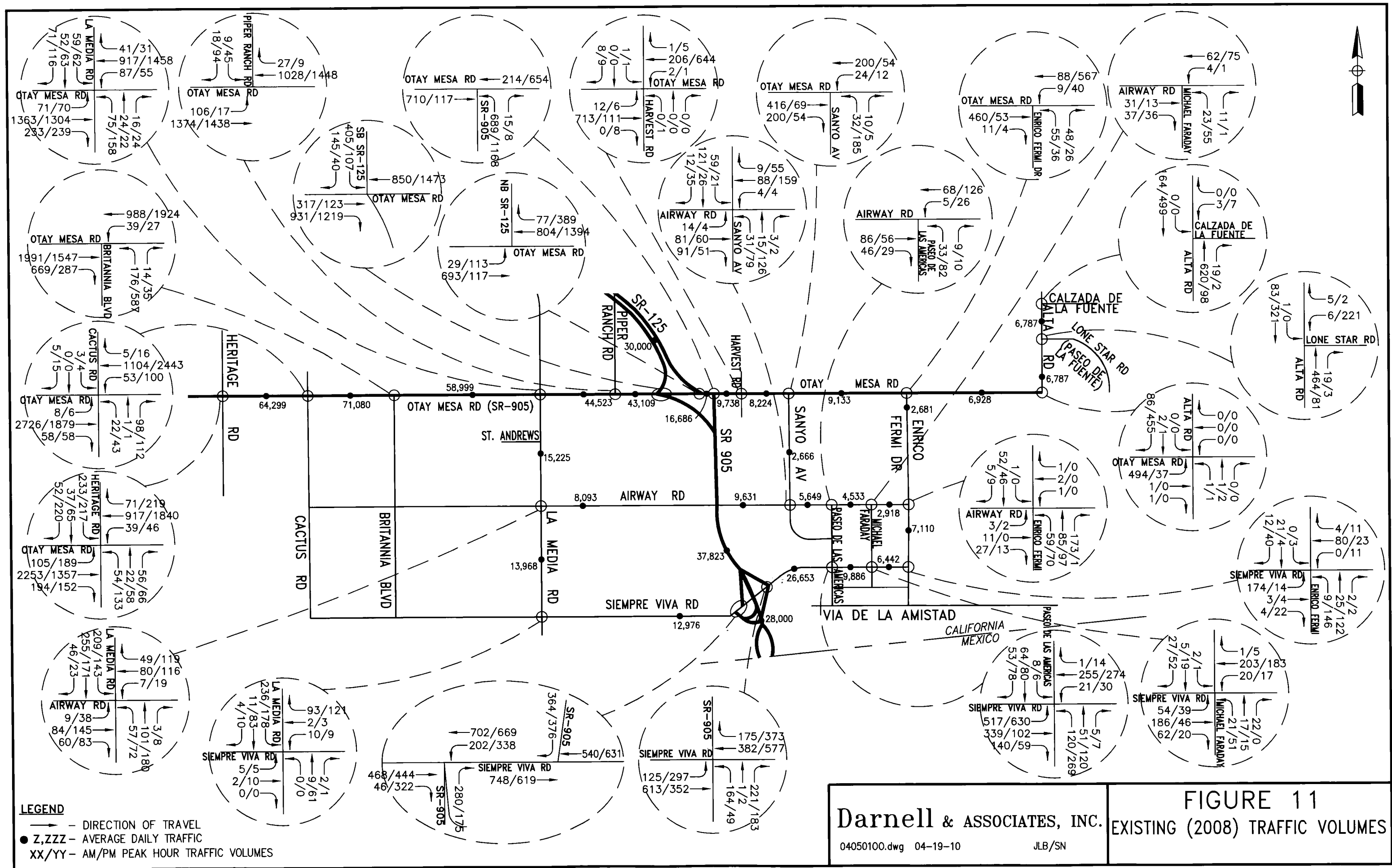
ROADWAY SEGMENT DAILY TRAFFIC

Twenty-four (24) hour count data for the key roadway segments were collected on typical weekdays during the months of February and March, 2008. Count summary sheets can be found in Appendix A. The existing daily traffic volumes are illustrated in Figure 11.

KEY INTERSECTIONS

Figure 10 provides intersection configurations and traffic control for the key intersections. The key intersections analyzed include:

- Interim SR-905 (Otay Mesa Road)/Heritage Road (signalized);
- Interim SR-905 (Otay Mesa Road)/Cactus Road (signalized);
- Interim SR-905 (Otay Mesa Road)/Britannia Boulevard (signalized);
- Interim SR-905 (Otay Mesa Road)/La Media Road (signalized);
- Interim SR-905 (Otay Mesa Road)/Piper Ranch Road (signalized);
- Interim SR-905 (Otay Mesa Road)/SR-125 Southbound Ramp (signalized);
- Interim SR-905 (Otay Mesa Road)/SR-125 Northbound Ramp (signalized);
- Otay Mesa Road (Old Otay Mesa Road)/SR-905 Connector (signalized);
- Otay Mesa Road (Old Otay Mesa Road)/Sanyo Avenue (signalized);
- Otay Mesa Road (Old Otay Mesa Road)/Enrico Fermi Drive (signalized);
- Otay Mesa Road (Old Otay Mesa Road)/Alta Road (all-way stop-controlled);
- Airway Road/La Media Road (all-way stop-controlled);
- Airway Road/Sanyo Avenue (all-way stop-controlled);
- Airway Road/Paseo De Las Americas (one-way stop-controlled);
- Airway Road/Michael Faraday Drive (one-way stop-controlled);
- Airway Road/Enrico Fermi Drive (signalized);
- Siempre Viva Road/La Media Road (all-way stop-controlled)
- SR-905 Southbound Ramp/Eastbound Siempre Viva Road (signalized);



- SR-905 Southbound Ramp/Westbound Siempre Viva Road (one-way stop-controlled);
- SR-905 Northbound Ramp/Siempre Viva Road (signalized);
- Siempre Viva Road/Paseo De Las Americas (signalized);
- Siempre Viva Road/Michael Faraday Drive (two-way stop-controlled);
- Siempre Viva Road/Enrico Fermi Drive (signalized); and
- Alta Road/Paseo De La Fuente (signalized).

INTERSECTION TRAFFIC COUNTS

Morning and afternoon peak hour turn counts for each of the key intersections were collected on typical weekdays during the months of February and March, 2008. It should be noted that Caltrans recently restricted the westbound left and eastbound right turn movements at the Otay Mesa Road/SR-905 connector intersection. Thus the intersection volumes collected in the field were manually adjusted to reflect this restriction. Count summary sheets can be found in Appendix A. Figure 11 presents the existing conditions traffic volumes used in this analysis.

EXISTING LEVEL OF SERVICE CONDITIONS

Existing Roadway Segments

Table 4 summarizes the daily segment analysis for the existing conditions. As shown in Table 4, based on average daily conditions the following roadways segments currently operate at an unacceptable LOS E or F:

- Interim SR-905 (Otay Mesa Road) between Heritage Road and Britannia Boulevard (operates at LOS F);
- Interim SR-905 (Otay Mesa Road) between Britannia Boulevard and Piper Ranch Road (operates at LOS E);
- La Media Road between Saint Andrews Avenue and Airway Road (operates at LOS F); and
- State Route 905 between Otay Mesa Road and Siempre Viva Road (operates at LOS E).

All other key roadway segments currently operate at an acceptable LOS D or better under existing conditions. It should be noted that field observations conducted in January 2010 found that the segment of Airway Road between SR-905 and Sanyo Avenue, which based on the February 2008 count data operates at LOS E, was closed to traffic for the construction of the structures at the SR-905/Airway Road intersection. It should be noted Airway Road between the SR-905 and Sanyo Avenue is presently closed to traffic by Caltrans to allow construction of the SR-905 overcrossing.

Table 4 – Existing Conditions Roadway Segment Daily LOS Summary

Roadway Segment	Jurisdiction	Classification	Capacity (LOS E)	ADT	v/c	LOS
Interim SR-905 (Otay Mesa Rd)						
Heritage Rd to Cactus Rd	City/Caltrans	6P	60,000	64,299	1.07	F
Cactus Rd to Britannia Blvd	City/Caltrans	6P	60,000	71,080	1.18	F
Britannia Blvd to La Media Rd	City/Caltrans	6P	60,000	58,999	0.98	E
La Media Rd to Piper Ranch Rd	City/Caltrans	5M	45,000	44,523	0.99	E
Piper Ranch Rd to SR-125	County/County/Caltrans	6P	57,000	43,109	0.76	C
Otay Mesa Road (Old Otay Mesa Road)						
SR-125 to Interim SR-905 Connector	County/County/Caltrans	5M (a)	47,000	16,686	0.36	A
Interim SR-905 Connector to Harvest Rd	County/County/Caltrans	5M (a)	47,000	9,738	0.21	A
Harvest Rd to Sanyo Ave	County/County/Caltrans	4M	37,000	8,224	0.22	A
Sanyo Ave to Enrico Fermi Dr	County/County	LC	16,200	9,133	0.56	D
Enrico Fermi Dr to Alta Rd	County	LC	16,200	6,928	0.43	C
Airway Road						
La Media Rd to SR-905	City	2C	15,000	8,093	0.54	C
SR-905 to Sanyo Ave (c)	City	2C	10,000	9,631	0.96	E
Sanyo Ave to Paseo de Las Americas	City	4M	40,000	5,649	0.14	C
Paseo de Las Americas to Michael Faraday	County/County	4M	37,000	4,533	0.12	C
Michael Faraday to Enrico Fermi Dr	County/County	LC	16,200	2,918	0.18	B
Enrico Fermi Dr to Airway Pl	County	C	34,200	1,160	0.03	A
Siempre Viva Road						
Drucker Ln to SR-905	City	6P	60,000	12,976	0.22	A
SR-905 to Paseo de Las Americas	City	6P	60,000	26,653	0.44	B
Paseo de Las Americas to Michael Faraday	City	4C	30,000	9,886	0.33	A
Michael Faraday to Enrico Fermi Dr	City	4C	30,000	6,442	0.21	A
Enrico Fermi Dr to Airway Pl	County	LC	16,200	830	0.05	A
La Media Road						
Interim SR-905 (Otay Mesa Rd) to St. Andrews	City	4C	30,000	15,225	0.51	C
SR-125						
North of Otay Mesa Road	SBX	4-Fwy	(b)	30,000	0.33	A
SR-905						
Airway Rd to Siempre Viva Rd	City/Caltrans	4M	40,000	37,823	0.95	E
South of Siempre Viva Rd	City/Caltrans	4-Fwy	(b)	28,000	0.32	A
Sanyo Avenue						
Otay Mesa Rd to Airway Rd	City	4C	30,000	2,666	0.09	A
Enrico Fermi Drive						
Otay Mesa Rd to Airway Rd	County	TC	19,000	2,681	0.14	A
Airway Rd to Siempre Viva Rd	City	4M	40,000	7,110	0.18	A
Alta Road						
Calzada De La Fuente to Paseo De La Fuente	County	TC	19,000	6,787	0.36	C
Paseo De La Fuente to Otay Mesa Rd	County	LC	16,200	6,787	0.42	C

City = Capacity of City segments is based on the upper limits of LOS E per the City of San Diego;

County = Capacity of County segments is based on the upper limits of LOS E per the County of San Diego;

Bold = Jurisdiction which capacity is based on; ADT= Average Daily Traffic; LOS= Level of Service;

V/C = Volume-to LOS E Capacity Ratio; 4-Fwy = 4-Lane Freeway; 6P = 6-Lane Prime Arterial; 5M = 5-Lane Major Arterial;

4M = 4-Lane Major Arterial; 4C = 4-Lane Collector; TC = Town Collector; 2C= 2-Lane Collector with no fronting property;

LC = Light Collector.

(a) Additional lanes may be provided to accommodate turning movements and freeway access; hence the roadway capacity was assumed to be 47,000 ADT at LOS E (half-way between a 4-lane Major & 6-Lane Prime Arterial).

(b) Capacity based on Caltrans District 11 & HCM procedures, See Appendix L for LOS calculations

(c) Field checks conducted in January 2010 found that this segment of Airway Road was currently closed to traffic

Existing Arterial Roadway Segments

A review of the 24 hour counts sheets for Otay Mesa Road, found that the traffic flow is rather constant between the hours of 7:00am to 6:00pm, compared to most 5-lane and 6-lane roadways which have high peak hour flows in the morning and afternoon. Further it should be noted that the Otay Mesa Port-of-Entry is open 24 hours a day with long lines crossing the border. This results in the spread of vehicles through the day resulting in increased daily traffic volumes. Since level of service based on daily volumes assumes significant increases in traffic counts during the peak hour periods, daily capacity analysis is not particularly accurate for Otay Mesa Road. Therefore, in addition to evaluating the roadway based on daily capacity it was also analyzed based on the Highway Capacity Manual's (HCM) Arterial Segment Methodology utilizing the Synchro software. Since the arterial segment analysis determines level of service based on the average travel speeds that occur on the roadway it provides a more accurate representation of the travel patterns and levels of service for Otay Mesa Road. The results of the analysis are summarized in Table 5.

Table 5 illustrates the existing conditions arterial level of service summary during the AM and PM peak hours. As shown in Table 5, all arterial roadway segments along Interim SR-905 (Otay Mesa Road) operate at an acceptable LOS C or better under existing conditions. A copy of the Synchro worksheets can be found in Appendix D.

Table 5 – Existing Conditions Arterial LOS Summary						
Intersection	Jurisdiction	Direction of Travel	AM Peak Hour		PM Peak Hour	
			Speed (mph)	LOS	Speed (mph)	LOS
Interim SR-905 – Heritage Rd. to Cactus Rd.	City/Caltrans	Eastbound	35.3	A	29.3	B
		Westbound	31.2	B	24.4	C
Interim SR-905 – Cactus Rd. to Britannia Blvd.	City/Caltrans	Eastbound	32.1	B	36.1	A
		Westbound	38.9	A	38.2	A
Interim SR-905 – Britannia Blvd. to La Media Rd.	City/Caltrans	Eastbound	42.6	A	35.4	A
		Westbound	43.6	A	39.4	A
Interim SR-905 – La Media Rd. to Piper Ranch Rd.	City/Caltrans/County	Eastbound	38.5	A	38.1	A
		Westbound	33.0	B	28.3	B
Interim SR-905 – Piper Ranch Rd to SR125	City/Caltrans/County	Eastbound	34.0	B	35.8	B
		Westbound	29.5	B	34.2	B
LOS = Level of Service; Speed is measured in miles per hour (mph)						

Existing Intersections

Existing Synchro Analysis

Table 6 illustrates the existing intersection levels of service summary under existing conditions. As can be seen from Table 6, with the exception of the Otay Mesa Road/Sanyo Avenue intersection all intersections operate at an acceptable LOS D or better under existing conditions. The westbound approach at the Otay Mesa Road/Sanyo Avenue intersection currently operates at LOS E during the PM peak hour, however the intersection as a whole operates at LOS D during the PM peak hour. A copy of the Synchro worksheets for the existing conditions can be found in Appendix D.

Table 6 – Existing Conditions Intersection LOS Summary							
Intersection	Jurisdiction	Traffic Control	Critical Move	AM Peak		PM Peak	
				Delay	LOS	Delay	LOS
Otay Mesa Rd (E-W) @ Heritage Rd (N-S)	City/Caltrans	Sig	Int.	30.1	C	29.2	C
Otay Mesa Rd (E-W) @ Cactus Rd (N-S)	City/Caltrans	Sig	Int.	8.9	A	11.5	B
Otay Mesa Rd (E-W) @ Britannia Blvd (N-S)	City/Caltrans	Sig	Int.	10.3	B	18.8	B
Otay Mesa Rd (E-W) @ La Media Rd (N-S)	City/Caltrans	Sig	Int.	14.1	B	27.0	C
Otay Mesa Rd (E-W) @ Piper Ranch Rd (N-S)	County/City/Caltrans	Sig	Int.	6.1	A	3.6	A
Otay Mesa Rd (E-W) @ SR-125 SB (N-S)	County/City/SBX	Sig	Int.	11.2	B	2.5	A
Otay Mesa Rd (E-W) @ SR-125 NB (N-S)	County/City/SBX	Sig	Int.	0.9	A	5.6	A
Otay Mesa Rd (E-W) @ SR-905 (N-S)	County/City/SBX	Sig	Int.	16.1	B	21.1	C
Otay Mesa Rd (E-W) @ Sanyo Av (N-S)	County/City	Sig	Int.	4.1	A	12.6	B
Otay Mesa Rd (E-W) @ Enrico Fermi Dr (N-S)	County	Sig	Int.	10.4	B	9.4	A
Otay Mesa Rd (E-W) @ Alta Rd (N-S)	County	AWSC	EB	32.5	D	9.8	A
			NB	9.3	A	8.2	A
			SB	9.8	A	18.3	C
			Int.	27.6	D	17.2	C
Airway Rd (E-W) @ La Media Rd (N-S)	City	AWSC	EB	11.1	B	14.5	B
			WB	10.9	B	13.9	B
			NB	11.4	B	15.4	C
			SB	13.3	B	12.2	B
Airway Rd (E-W) @ Sanyo Av (N-S)	City	AWSC	Int.	12.3	B	13.9	B
			EB	10.1	B	9.9	A
			WB	8.1	A	9.1	A
			NB	8.0	A	9.2	A
Airway Rd (E-W) @ Enrico Fermi Dr (N-S)	County/City	OWSC	SB	9.6	A	8.0	A
			Int.	9.3	A	9.1	A
			NBL	9.7	A	10.6	B
			NBL	9.6	A	9.6	A
Airway Rd (E-W) @ Michael Faraday (N-S)	County/City	Sig	Int	6.6	A	13.0	B
Siempre Viva Rd (E-W) @ La Media Rd (N-S)	City	AWSC	EB	8.0	A	8.4	A
			WB	7.8	A	8.5	A
			NB	7.6	A	8.4	A
			SB	9.8	A	11.0	B
Siempre Viva (E-W) @ SR-905 SB to EB Siempre Viva (N-S)	City/Caltrans	Sig	Int.	9.2	A	9.9	A
			Int.	7.0	A	8.5	A
			SB	14.3	B	13.3	B
			SB	14.3	B	13.3	B
Siempre Viva (E-W) @ SR-905 SB to WB Siempre Viva (N-S)	City/Caltrans	OWSC	SB	14.3	B	13.3	B
Siempre Viva (E-W) @ SR-905 NB Ramp (N-S)	City/Caltrans	Sig	Int.	10.8	B	11.0	B
Siempre Viva (E-W) @ Paseo De Las Americas (N-S)	City	Sig	Int.	24.7	C	40.0	D
Siempre Viva (E-W) @ Michael Faraday (N-S)	City	TWSC	NB	14.5	B	13.2	B
			SBL-T	15.9	C	12.3	B
Siempre Viva (E-W) @ Enrico Fermi (N-S)	County/City	Sig	Int	12.6	B	13.7	B
Calzada De La Fuente (E-W) @ Alta Rd (N-S)	County	OWSC	WB	14.1	B	12.3	B
Paseo De La Fuente (E-W) @ Alta Rd (N-S)	County	Sig	Int	2.7	A	12.6	B
Delay is measured in seconds/vehicle; LOS=Level of Service; sig=signalized; AWSC = All-Way Stop-Controlled; TWSC = Two-Way Stop-Controlled; OWSC=One Way Stop Controlled; sig – Signalized; Int = Intersection; NB = Northbound Approach; SB = Southbound Approach; EB = Eastbound Approach; WB = Westbound Approach; NBL = Northbound Left; SBL-T= Shared Southbound Left-Through; SBX = South Bay Expressway; E-W = East-West Roadway; N-S = North-South Roadway							

Existing ILV Analysis

Table 7 summarizes the existing conditions ILV analysis. As shown in Table 7, all state-owned intersections currently operate under stable flow during the AM and PM peak hours. A copy of the ILV worksheets can be found in Appendix D.

Table 7 – Existing ILV Analysis				
Intersection	AM Peak		PM Peak	
	ILV/Hr	Operating Condition	ILV/Hr	Operating Condition
Otay Mesa Rd (E-W) @ Heritage Rd (N-S)	1,115	Stable Flow	1,049	Stable Flow
Otay Mesa Rd (E-W) @ Cactus Rd (N-S)	1,129	Stable Flow	1,055	Stable Flow
Otay Mesa Rd (E-W) @ Britannia Blvd (N-S)	708	Stable Flow	936	Stable Flow
Otay Mesa Rd (E-W) @ La Media Rd (N-S)	740	Stable Flow	924	Stable Flow
Otay Mesa Rd (E-W) @ Piper Ranch Rd (N-S)	696	Stable Flow	766	Stable Flow
Otay Mesa Rd (E-W) @ SR-125 SB (N-S)	701	Stable Flow	677	Stable Flow
Otay Mesa Rd (E-W) @ SR-125 NB (N-S)	417	Stable Flow	754	Stable Flow
Otay Mesa Rd (E-W) @ SR-905 Connector (N-S)	700	Stable Flow	911	Stable Flow
Siempre Viva (E-W) @ SR-905 SB to EB Siempre Viva (N-S)	363	Stable Flow	463	Stable Flow
Siempre Viva (E-W) @ SR-905 NB Ramp (N-S)	372	Stable Flow	483	Stable Flow
ILV/Hour = Intersecting Lane Vehicles Per Hour; <1,200 ILV/Hour = Stable Flow; 1,200 - 1,500 ILV/Hour = Unstable Flow; 1,500 ILV/Hour = Capacity, Stop and Go Operation E-W = East-West Roadway; N-S = North-South Roadway				

SECTION IV – IMPACTS

PUBLIC FACILITIES ELEMENT IN COUNTY

According to page XII-4-20 of the Public Facility Element for San Diego County, a discretionary project which has a significant impact on roadways will be required, as a condition of approval, to make “improvements or other measures necessary to mitigate traffic impacts to avoid reduction in the existing Level of Service below ‘D’ on off-site and on-site abutting County of San Diego’s Circulation Element roads. New development that would significantly impact congestion on roads at LOS ‘E’ or ‘F’, either currently or as a result of the project, will be denied unless improvements are scheduled to increase the LOS to ‘D’ or better or appropriate mitigation is provided. Appropriate mitigation would include a fair share contribution in the form of road improvements or a fair share contribution to an established program or project. If impacts cannot be mitigated, the project will be denied unless a specific statement of overriding findings is made pursuant to Section 15091(b) and 15093 of the State CEQA Guidelines.”

The *Public Facility Element* for the County of San Diego also requires that all on-site County Circulation Element roads operate at Level of Service C or better. If the Level of Service at an on-site County Circulation Element road is reduced below LOS C, the proposed project must provide appropriate mitigation measures. A copy of excerpts from the County’s *Public Facility Element* can be found in Appendix A.

LEVELS OF SIGNIFICANCE STANDARDS

The roadway segments and intersections in the vicinity of the proposed project are located in the jurisdiction of both the City and County of San Diego. The criteria for determining project significance depend on whether the roadway segment or intersection is located in the City or the County. Both the City’s and the County’s significance of impact criteria are discussed below.

City of San Diego

For projects deemed complete on or after January 1, 2007, the City of San Diego has adopted a modification in the significance criteria in the level of service thresholds for facilities operating at LOS E or F. Therefore, the study utilizes the adopted level of significance thresholds to assess the proposed project’s traffic impact on the roadway network operating at LOS E or F located within the City’s jurisdiction. The City of San Diego’s Significance Transportation Impact Measures and significance thresholds per California Environmental Quality Act (CEQA) that the City has adopted in January 2007 are summarized in Table 8. A copy of excerpts from the City of San Diego’s Significance Determination Thresholds, adopted January 2007 is provided in Appendix A. Since the City of San Diego considers LOS D to be an acceptable level of service, the City of San Diego’s Significant Transportation Impact Measures were only applied to the segments and intersections located within the City of San Diego that were found to operate at LOS E or F.

County of San Diego

Although the *Public Facility Element (PFE)* sets standards as to which level of service roadways and intersections must operate within the County (i.e. requires operation of LOS D or better), it does not establish a guideline to evaluate whether a project is significant if it adds traffic to a roadway facility that is currently operating at an unacceptable LOS E or F. Thus, the *County of San Diego Guidelines for Determining Significance, First Modification February 19, 2010* was developed to evaluate the significance of traffic impacts on roadways and intersections which are currently operating at LOS E or F. A summary of the County’s Guidelines is provided in Table 8. Excerpts from the County’s Guidelines are provided in Appendix A.

Table 8 – Measures of Significant Project Impacts					
City of San Diego					
LOS w/Project	Allowable Increase/Decrease Due to Project Impacts (for projects deemed complete after January 1, 2007)				
	Intersection	Roadway Segments			
	Delay (sec)	V/C	Speed (mph)		
E	2.0	0.02	1.0		
F	1.0	0.01	0.5		
County of San Diego					
LOS	Allowable Increase on Congested Roads and Intersections				
	Intersections		Road Segments		
	Signalized	Unsignalized	2-Lane Road	4-Lane Road	6-Lane Road
LOS E	Delay of 2 seconds or less	20 or less peak hour trips on a critical movement	200 ADT	400 ADT	600 ADT
LOS F	Either a Delay of 1second, or 5 peak hour trips or less on a critical movement	5 or less peak hour trips on a critical movement	100 ADT	200 ADT	300 ADT
County Notes:					
– A critical movement is an intersection movement (right turn, left turn, through-movement) that experiences excessive queues, which typically operate at LOS F. Also if a project adds significant volume to a minor roadway approach, a gap study should be provided that details the headways between vehicles on the major roadway.					
– By adding proposed project trips to all other trips from a list of projects, this same table must be used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project that contributes additional trips must mitigate a share of the cumulative impacts.					
– The County may also determine impacts have occurred on roads even when a project’s traffic or cumulative impacts do not trigger an unacceptable level of service, when such traffic uses a significant amount of remaining road capacity.					
– For determining significance at signalized intersection with LOS F conditions, the analysis must evaluate both the delay <u>and</u> the number of trips on a critical movement, exceedance of either criteria result in a significant impact.					
ADT = Average Daily Traffic; LOS = Level of Service, sec = Seconds of Delay per Vehicle					

Roadway Segments

As shown in Table 8, per the County's Guidelines, "[t]raffic volume increases from public or private projects that result in one or more of the following criteria will have a significant traffic volume or level of service traffic impact on a road segment:

- The additional or redistributed ADT generated by the proposed project will significantly increase congestion on a Circulation Element Road or State Highway currently operating at LOS E or LOS F, or will cause a Circulation Element Road or State Highway to operate at a LOS E or LOS F as a result of the proposed project as identified in Table [7], or
- The additional or redistributed ADT generated by the proposed project will cause a residential street to exceed its design capacity."

As discussed on pages 13 and 14 of the *County of San Diego Guidelines for Determining Significance, First Modification February 19, 2010*, an increase of the daily thresholds established for roadway segments operating at LOS E would result in only one additional car every 2.4 minutes per lane while the thresholds established for roadway segments operating at LOS F would result in only one additional car every 4.8 minutes. Therefore, the thresholds identified in Table 8, in most cases, would result in changes to traffic flow that would not be noticeable to the average driver and would thus not constitute a significant impact on the roadway.

The County guidelines also states that “For large projects, controversial projects and/or projects which are preparing Environmental Impact Reports, more detailed evaluations to verify the applicability of the significance thresholds for the individual project conditions may be necessary. Additional evaluations may include analysis of vehicle headways, speeds, average gaps, queues, delay, and/or other factors.”

Two-Lane Highways

Intersection Spacing Over One (1) Mile

In the *County of San Diego Guidelines for Determining Significance, First Modification February 19, 2010* the County of San Diego established a higher capacity and a higher impact significance level for two-lane highways with signalized intersection spacing over one mile. Table 9 provides a summary of the level of service criteria and guidelines for significance for two-lane highways with intersection spacing over one-mile.

Table 9 – Measures of Significance on 2-Ln Hwys w/ Signalized Intersection Spacing > 1 Mile		
Level of Service	LOS Criteria	Impact Significance Level
E	> 16,200 ADT	>325 ADT
F	> 22,900 ADT	>225 ADT
Note: Where detailed data is available, the Director of Public Works may also accept a detailed level of service analysis based upon the two-lane highway analysis procedures provided in the Chapter 20 Highway Capacity Manual		

Intersection Spacing Less Than One (1) Mile

“Similar to the experience of drivers in urban areas with closely space intersections, the functionality of two-lane highway conditions with signalized intersection spacing under one-mile becomes constrained not due to the segment capacity but the intersection operations. Therefore the assessment of operates of intersection on two-lane highways shall be guided by a Level of Service standard. Level of Service for purposes of this significance guideline is based upon the overall intersection operations similar - to Urban Street analysis in Chapter 15 Highway Capacity Manual.” Impacts for the two-lane highways with signalized intersection under one mile spacing will be determined by evaluating the intersection impact criteria identified in Table 10.

Table 10 – Measures of Significance on 2-Ln Hwys w/ Signalized Intersection Spacing < 1 Mile	
Level of Service	Adjacent Signalized Intersection
E	Delay of 2 seconds or less
F	Delay of 1 second, or 5 peak hour trips or less on a critical movement
Notes: – A critical movement is an intersection movement (right turn, left turn, through-movement) that experiences excessive queues which typically operate at LOS F. – By adding proposed project trips to all other trips from a list of projects, these same tables are used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project is responsible for mitigating its share of the cumulative impact. – The County may also determine impacts have occurred on roads even when a project’s traffic or cumulative impacts do not trigger an unacceptable level of service, when such traffic uses a significant amount of remaining road capacity.	

It should be noted that per the *County of San Diego Guidelines for Determining Significance, First Modification February 19, 2010*, “[i]mpacts related to operational features on two-lane highways will be evaluated on a case-by-case basis based upon traffic flow patterns, geometrics, available sight distance, accident histories, and other factors.”

Signalized Intersections

“Traffic volume increases from public or private projects that result in one or more of the following criteria will have a significant traffic volume or level of service traffic impact on a signalized intersection”:

- “The additional or redistributed ADT generated by the proposed project will significantly increase congestion on a signalized intersection currently operating at LOS E or LOS F, or will cause a signalized intersection to operate at a LOS E or LOS F as identified in Table [8].”
- Based upon an evaluation of existing accident rates, the signal priority list, intersection geometrics, proximity of adjacent driveways, sight distance or other factors, the project would significantly impact the operations of the intersection.”

As discussed on page 16 of the *County of San Diego Guidelines for Determining Significance, First Modification February 19, 2010*, an increase in delay of two seconds or less, the threshold established for signalized intersections operating at LOS E, “...is a small fraction of the typical cycle length for a signalized intersection that ranges between 60 and 120 seconds. The likelihood of increased queues forming due to the additional two seconds of delay is low.” Thus, the increase in delay of two (2) seconds or less, on average, would result in changes to traffic flow that would not be noticeable to the average driver and would thus not constitute a significant impact. Since small changes and disruptions to the traffic flow at a signalized intersection can have a greater effect on the overall intersection operation when the intersection is operating at LOS F, versus LOS E, a more stringent guideline of one (1) second of delay was established for intersections operating at LOS F.

The five (5)-peak hour trip threshold, established for the critical movement of a signalized intersection operating at LOS F, when spread out over the peak hour, results in an increase of one (1) vehicle every 12 minutes or 720 seconds. This increase would not be noticeable to the average driver because one additional vehicle during a 12-minute interval on average would clear the traffic signal cycles well within the 12-minute period. Further, even if all five (5) additional peak hour vehicles arrived at the same time, these trips would also, on average, clear the traffic cycle and the existing queue lengths would be re-established. Thus, the increase of five (5) peak hour trips to a critical movement at a signalized intersection, on average, would result in changes to traffic flow that would not be noticeable to the average driver and would thus not constitute a significant impact. (See page 17 of the County’s *Guidelines for Determining Significance* provided in Appendix A.)

Unsignalized Intersections

“Traffic volume increases from public or private projects that result in one or more of the following criteria will have a significant impact at an unsignalized intersection as listed in Table [8] and described as text below:”

- “The additional or redistributed ADT generated by the proposed project will add 21 or more peak hour trips to a critical movement of an unsignalized intersection, and cause an unsignalized intersection to operate below LOS D, or
- The additional or redistributed ADT generated by the proposed project will add 21 or more peak hour trips to a critical movement of an unsignalized intersection currently operating at LOS E, or
- The additional or redistributed ADT generated by the proposed project will add 6 or more peak hour trips to a critical movement of an unsignalized intersection, and cause the unsignalized intersection to operate at LOS F, or

- The additional or redistributed ADT generated by the proposed project will add 6 or more peak hour trips to a critical movement of an unsignalized intersection currently operating at LOS F, or
- Based upon an evaluation of existing accident rates, the signal priority list, intersection geometrics, proximity of adjacent driveways, sight distance or other factors, the project would significantly impact the operations of the intersection.”

As discussed on page 18 of the *County of San Diego Guidelines for Determining Significance, First Modification February 19, 2010*, the addition of 20 peak hour trips to a critical movement, would result in an increase of one (1) vehicle every 3.0 minutes or 180 seconds. “Assuming the average wait time for a vehicle in the critical movement queue is less than 3.0 minutes, which is typical for LOS E conditions; this would not be noticeable to the average driver and would not be considered a significant impact.” Five (5) – trips spread out over an hour would result in an increase of one (1) vehicle every 12.0 minutes or 720 seconds. “This typically exceeds the average wait time in the queue and would not be noticeable to the average driver.” (See page 18 of the County’s *Guidelines for Determining Significance* provided in Appendix A.)

Regionally Significant Arterials

For Regionally Significant Arterials (RSA), such as Interim SR-905 and SR-125, Caltrans utilizes the *San Diego Traffic Engineers’ Council (SANTEC)/Institute of Transportation Engineers (ITE) Guidelines For Traffic Impact studies (TIS) in the San Diego Region* to determine significance. A summary of the SANTEC/ITE Guidelines are provided in Table 10. Since Interim SR-905 (Otay Mesa Road) from Britannia Boulevard to SR-125 is also a regionally significant arterial that is currently under the jurisdiction of Caltrans as well as the City of San Diego and/or County of San Diego, this traffic study utilizes the SANTEC/ITE guidelines summarized in Table 11 to determine the level of significance for the peak hour arterial level of service analysis based on an increase in average speed.

Table 11 – SANTEC/ITE Guidelines for Measures of Significant Project Impacts						
LOS with Project	Allowable Change due to Project Impact					
	Freeways		Roadway Segments		Signalized Intersections	Ramps with > 15 min. delay
	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec.)	Delay (min.)
E & F	0.01	1	0.02	1	2	2
V/C = Volume to Capacity Ratio						

Consistent with the *Public Facility Element* the criteria described above for roadway segments, intersections, and regionally significant arterials were applied to segments and intersections that operate at LOS E or LOS F. It should be noted that as outlined in the *Public Facility Element*, if the addition of the project reduces an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F), it is considered to be significant regardless of the volume of traffic it adds to the segment or intersection.

Definition of Direct and Cumulative Impact in the City of San Diego and the County of San Diego

The County’s *Guidelines for Determining Significance* adopted on February 19, 2010 was developed to evaluate the significance of traffic impacts on roadways and intersections which are currently operating at LOS E or F. It should be noted that the significance guidelines summarized in Table 8 are currently only utilized by the County of San Diego to determine if a project has a significant direct and/or future impact. A project is considered to have a significant cumulative impact if it adds any traffic to a roadway segment and/or intersection that operates at LOS E or F under cumulative conditions and the total cumulative traffic added to the roadway segment and/or intersection exceeds the value identified in Table 8.

Per the City of San Diego, direct traffic impacts are those projected to occur at some point at the time a proposed development becomes operational, including other developments not presently operational but which are anticipated to be operational at that time (near term). Cumulative traffic impacts are those projected to occur at some point after a proposed development becomes operational, such as during subsequent phases of a project and when additional proposed developments in the area become operational (short-term cumulative) or when the affected community plan area reaches full planned build out (long term cumulative).

Per the County guidelines, a project's direct impacts are assessed under existing plus project conditions and cumulative impacts are assessed under cumulative plus project plus other approved and pending projects conditions. It should be noted that unlike the County of San Diego, the City does not require an analysis of existing plus project conditions to determine the direct impact of a project.

The impacts determined under the cumulative conditions are short term cumulative per City's criteria. Since the project is located in the County of San Diego, the traffic study is prepared in accordance with the guidelines provided by the County of San Diego. However, the City's significance thresholds are utilized in analyzing the roadway segments and intersections located in the City of San Diego.

Caltrans

Caltrans Guide for the Preparation of Traffic Impact Studies, December 2002 requires that State highway facilities (i.e., freeway segments, signalized intersections, on-or off-ramps, etc.) maintain a target LOS at the transition between LOS C and LOS D. See Appendix A for excerpts from Caltrans traffic impact guidelines.

EXISTING PLUS PROJECT UNIT 1 LEVEL OF SERVICE CONDITIONS

This section analyzes the existing conditions plus Unit 1 of the proposed project under. Figure 12 illustrates the existing plus Unit 1 project traffic volumes.

Existing + Unit 1 – Roadway Segments

Table 12 summarizes the daily roadway segment level of service analysis under the existing without and with Unit 1 project conditions. As shown in Table 12, the following roadway segments operate at an unacceptable LOS E or F under existing plus Unit 1 project conditions:

- Interim SR-905 (Otay Mesa Road) between Heritage Road and Britannia Boulevard (LOS F without and with Unit 1 of the project);
- Interim SR-905 (Otay Mesa Road) between Britannia Boulevard and Piper Ranch Road (LOS E without the project and LOS F with Unit 1 of the project);
- Otay Mesa Road (Old Otay Mesa Road) between Harvest Road and Sanyo Avenue (LOS A without the project and LOS E with Unit 1 of the project);
- Otay Mesa Road (Old Otay Mesa Road) between Sanyo Avenue and Enrico Fermi Drive (LOS D without the project and LOS E with Unit 1 of the project);
- Otay Mesa Road (Old Otay Mesa Road) between Enrico Fermi Drive and Alta Road (LOS C without the project and LOS E with Unit 1 of the project);
- Airway Road between SR-905 and Sanyo Avenue (LOS E without and with Unit 1 of the project – Airway Road is presently closed by Caltrans); and
- State Route 905 between Otay Mesa Road and Siempre Viva Road (LOS E without and with Unit 1 of the project).

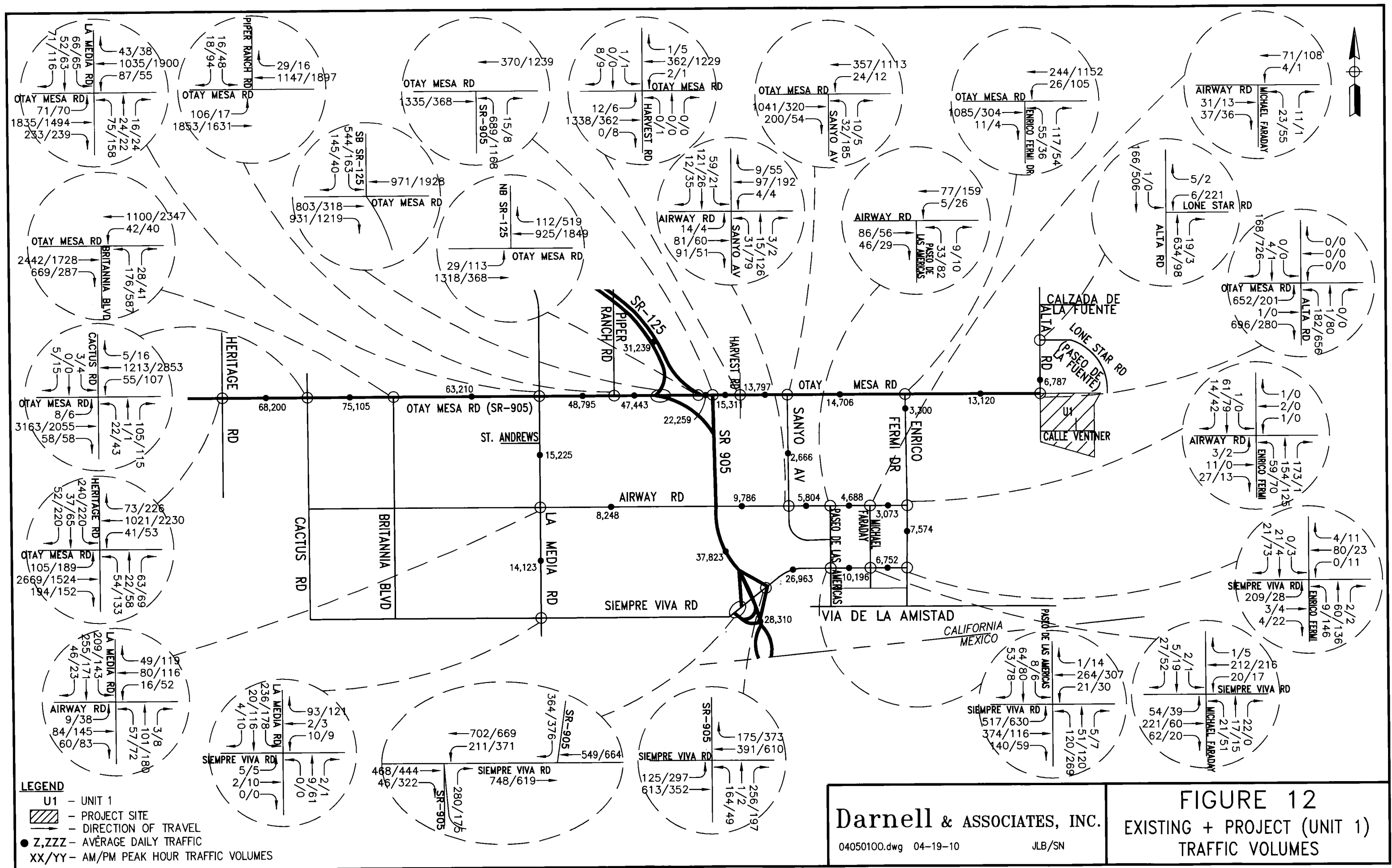


Table 12 -- Existing + Unit 1 Roadway Segment Daily LOS Summary

Roadway Segment	Jurisdiction	Class	Capacity (LOSE)	Existing 2008			Existing + Unit 1					
				ADT	V/C	LOS	Proj. Tr	ADT	V/C	LOS	ΔV/C	Sig
Interim SR-905 (Otay Mesa Rd) Heritage Rd to Cactus Rd Cactus Rd to Britannia Blvd Britannia Blvd to La Media Rd La Media Rd to Piper Ranch Rd Piper Ranch Rd to SR-125	City/Caltrans	6P	60,000	64,299	1.07	F	3,901	68,200	1.14	F	0.07	Yes ^(d)
	City/Caltrans	6P	60,000	71,080	1.19	F	4,025	75,105	1.25	F	0.07	Yes ^(d)
	City/Caltrans	6P	60,000	58,999	0.98	E	4,211	63,210	1.05	F	0.07	Yes ^(d)
	City/Caltrans	5M	45,000	44,523	0.99	E	4,272	48,795	1.08	F	0.09	Yes ^(d)
	County/City/Caltrans	6P	57,000	43,109	0.73	C	4,334	47,443	0.83	D	0.07	No
Otay Mesa Rd (Old Otay Mesa Rd) SR-125 to Interim SR-905 Connector Interim SR-905 Connector to Harvest Rd Harvest Rd to Sanyo Av Sanyo Av to Enrico Fermi Dr Enrico Fermi Dr to Alta Rd	County/City/Caltrans	5M(a)	47,000	16,686	0.36	A	5,573	22,259	0.47	B	0.11	No
	County/City/Caltrans	5M(a)	47,000	9,738	0.21	A	5,573	15,311	0.33	A	0.12	No
	County/City/Caltrans	4M	37,000	8,224	0.22	A	5,573	13,797	0.37	A	0.15	No
	County/City	LC	16,200	9,133	0.56	D	5,573	14,706	0.91	E	0.35	Yes
	County	LC	16,200	6,928	0.43	C	6,192	13,120	0.81	E	0.38	Yes
Airway Road La Media Rd to SR-905 SR-905 to Sanyo Av (c) Sanyo Av to Paseo de las Americas Paseo de las Americas to Michael Faraday Dr Michael Faraday Dr to Enrico Fermi Dr Enrico Fermi Dr to Airway Pl	City	2C	15,000	8,093	0.54	C	155	8,248	0.55	C	0.01	No
	City	2C	10,000	9,631	0.96	E	155	9,786	0.98	E	0.02	No
	City	4M	40,000	5,649	0.14	C	155	5,804	0.15	C	0.01	No
	County/City	4M	37,000	4,513	0.12	C	155	4,688	0.13	C	0.01	No
	County/City	LC	16,200	2,918	0.18	B	155	3,073	0.19	B	0.01	No
Siempre Viva Road SR-905 NB to Paseo de las Americas Paseo de las Americas to Michael Faraday Dr Michael Faraday Dr to Enrico Fermi Dr Enrico Fermi Dr to Airway Pl	County	4C	34,200	1,160	0.03	A	0	1,160	0.03	A	0.00	No
	City	6P	60,000	26,653	0.44	B	310	26,963	0.45	B	0.01	No
	City	4C	30,000	9,886	0.33	A	310	10,196	0.34	B	0.01	No
	City	4C	30,000	6,442	0.22	A	310	6,752	0.23	A	0.02	No
	County	LC	16,200	830	0.05	A	0	830	0.05	A	0.00	No
La Media Road Otay Mesa Rd to St. Andrews	City	4C	30,000	15,225	0.51	C	0	15,225	0.51	C	0.00	No
	SR-125	4-Fwy	(b)	30,000	0.33	A	1,239	31,239	0.34	A	0.01	No
Existing SR-905 Otay Mesa Rd to Siempre Viva Rd South of Siempre Viva Rd	City/Caltrans	4M	40,000	37,823	0.95	E	0	37,823	0.95	E	0.00	No
	City/Caltrans	4-Fwy	(b)	28,000	0.32	A	310	28,310	0.32	A	0.00	No
Sanyo Avenue Otay Mesa Rd to Airway Rd	City	4C	30,000	2,666	0.09	A	0	2,666	0.09	A	0.00	No
Enrico Fermi Drive Otay Mesa Rd to Airway Rd Airway Rd to Siempre Viva Rd	County	TC	19,000	2,681	0.14	A	619	3,300	0.17	B	0.03	No
	City	4M	40,000	7,110	0.19	A	464	7,574	0.19	A	0.01	No

City = Capacity of city segments is based on the upper limits of LOS E per the City of San Diego; County = Capacity of county segments is based on the upper limits of LOS E per the County of San Diego; SBX = South Bay Expressway; Bold = Jurisdiction which capacity is based on; ADT = Average Daily Traffic; LOS = Level of Service; V/C = Volume to LOS E Capacity Ratio; Fwy = Freeway; 6P = 6-Lane Prime Arterial; 5M = 5-Lane Major Arterial; 4M = 4-Lane Major Arterial; 4C = 4-Lane Collector; 2C = 2-Lane Collector with no fronting property; LC = Light Collector; TC = Town Collector

(a) Additional lanes may be provided to accommodate turning movements and freeway access; hence the roadway capacity was assumed to be 47,000 ADT at LOS E (half way between a 4M & 6P).

(b) Capacity based on Caltrans District 11 & HCM procedures, See Appendix L for LOS calculations.

(c) Field checks conducted in January 2010 found that this segment of Airway Road was currently closed to traffic.

(d) Table 13 of the Arterial Roadway Segment analysis shows that the roadway segment does not have a significant impact.

The segments of Interim SR-905 (Otay Mesa Road) between Heritage Road and Britannia Boulevard operate at an unacceptable LOS F under existing without and with Unit 1 of the proposed project conditions. With the addition of between 3,901 and 4,025 ADT from Unit 1 of the project, the volume-to-capacity (v/c) ratio will be increased by 0.07 and the level of service on these segments of Interim SR-905 (Otay Mesa Road) will continue to operate at LOS F. The increase in v/c exceed the 0.01 allowed per the City of San Diego's thresholds for significance for a roadway segment operating at LOS F, thus, based on average daily conditions Unit 1 of the project has a significant direct impact on these segments of Interim SR-905 (Otay Mesa Road). However, based on the arterial roadway segment analysis the segments of Interim SR-905 (Otay Mesa Road) between Heritage Road and Britannia Boulevard operate at an acceptable level of service and the project is not considered to have a significant direct impact. See the arterial roadway segment section for more details.

The segments of Interim SR-905 (Otay Mesa Road) from Britannia Boulevard to Piper Ranch Road operate at an unacceptable LOS E under existing conditions. With the addition of between 4,211 and 4,272 ADT from Unit 1 of the project, the v/c ratio will be increased by a range of 0.07 to 0.09 and the level of service on these segments of Interim SR-905 (Otay Mesa Road) will degrade to LOS F. The increase in v/c exceeds the 0.01 allowed per the City of San Diego's thresholds for significance for a roadway segment operating at LOS F, thus, based on average daily conditions Unit 1 of the project has a significant direct impact on these segments of Interim SR-905 (Otay Mesa Road). However, based on the arterial roadway segment analysis the segments of Interim SR-905 (Otay Mesa Road) between Britannia Boulevard and Piper Ranch Road operate at an acceptable level of service and the project is not considered to have a significant direct impact. See the arterial roadway segment section for more details.

The segment of Otay Mesa Road (Old Otay Mesa Road) between Sanyo Avenue and Enrico Fermi Drive operates at LOS D under existing conditions. With the addition of 5,573 ADT from Unit 1 of the project, this segment of Otay Mesa Road (Old Otay Mesa Road) will operate at LOS E. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F). Since Unit 1 of the project lowers the existing level of service from LOS D to LOS E, based on average daily conditions, Unit 1 of the project is considered to have a significant direct impact on the segment of Otay Mesa Road (Old Otay Mesa Road) between Sanyo Avenue and Enrico Fermi Drive. See Section IX for a discussion on how the developer will mitigate its significant direct impacts.

The segment of Otay Mesa Road (Old Otay Mesa Road) between Enrico Fermi Drive and Alta Road operates at LOS C under existing conditions. With the addition of 6,192 ADT from Unit 1 of the project, this segment of Otay Mesa Road (Old Otay Mesa Road) will operate at LOS E. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F). Since Unit 1 of the project lowers the existing level of service from LOS C to LOS E, based on average daily conditions, Unit 1 of the project is considered to have a significant direct impact on the segment of Otay Mesa Road (Old Otay Mesa Road) between Enrico Fermi Drive and Alta Road. See Section IX for a discussion on how the developer will mitigate its significant direct impacts.

Although based on February 2008 count data, the segment of Airway Road between SR-905 and Sanyo Avenue operates at LOS E under existing conditions. This segment of Airway Road; however, is currently closed to traffic for the construction of the structures at the SR-905/Airway Road intersection. By the time Unit 1 of the proposed project comes on line this segment of Airway Road is anticipated to be re-opened, thus project traffic is added to the segment of Airway Road between the SR-905 and Sanyo Avenue. With the addition of 155 ADT from Unit 1 of the proposed project the v/c ratio will be increased by 0.02 and the level of service on this segment of Airway Road will continue to operate at LOS E. The increase in v/c does not exceed the 0.02 allowed per the City of San Diego's thresholds of significance for a roadway segment operating at LOS E, thus, based on average daily conditions Unit 1 of the project is not a significant direct impact on the segment of Airway Road between the SR-905 and Sanyo Avenue.

The segment of SR-905 between Otay Mesa Road and Siempre Viva Road operates at LOS E under existing without and with Unit 1 of the project conditions. Since the project is not adding any traffic to this segment the v/c ratio will not be increased with the addition of the project; thus, Unit 1 of the proposed project is not considered to have a significant impact.

All other roadway segments continue to operate at LOS D or better under existing plus Unit 1 of the proposed project conditions.

Existing + Unit 1 – Arterial Roadway Segments

A review of the 24 hour counts sheets for Otay Mesa Road, found that the traffic flow is rather constant between the hours of 7:00am to 6:00 pm, compared to most 5-lane and 6-lane roadways which have high peak hour flows in the morning and afternoon. Further it should be noted that the Otay Mesa Port-of-Entry is open 24 hours a day with long lines crossing the border. This results in the spread of vehicles through the day resulting in increased daily traffic volumes. Since level of service based on daily volumes assumes significant increases in traffic counts during the peak hour periods, daily capacity analysis is not particularly accurate for Otay Mesa Road. Therefore, in addition to evaluating the roadway based on daily capacity it was also analyzed based on the Highway Capacity Manual's (HCM) Arterial Segment Methodology utilizing the Synchro software. Since the arterial segment analysis determines level of service based on the average travel speeds that occur on the roadway it provides a more accurate representation of the travel patterns and levels of service for Otay Mesa Road. The results of the analysis are summarized in Table 13.

Based on daily roadway segment capacities, the project is part of significant impact to the roadway segments of Interim SR-905 (Otay Mesa Road); however, as shown in the arterial roadway segment analysis in Table 13 the failing segments of the Interim SR-905 (Otay Mesa Road) operate under acceptable level of service conditions during both the peak hours. A copy of the Synchro worksheets can be found in Appendix D and E.

Existing + Unit 1 – Intersections

Existing + Unit 1 – Synchro Analysis

Table 14 summarizes the existing plus Unit 1 project conditions intersection level of service summary during the AM and PM peak hours. (A copy of the Synchro worksheets can be found in Appendix D and E.) As shown in Table 14, the Otay Mesa Road (Old Otay Mesa Road)/Alta Road total intersection operates at LOS D or better without the project and LOS F during both peak hours with Unit 1 of the project.

The Otay Mesa Road (Old Otay Mesa Road)/Alta Road intersection currently operates at LOS D during the AM peak hour and LOS C during the PM peak hour overall. With the addition of 867 AM peak hour trips (694 to the eastbound approach) from Unit 1 of the project to the intersection, the eastbound approach and overall intersection will degrade to LOS F. With the addition of 929 PM peak hour trips (650 to the northbound approach) from Unit 1 of the project, the northbound approach and the overall intersection will degrade to LOS F. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F). Thus, per the PFE Unit 1 of the project is considered to have a significant direct impact at the Otay Mesa Road (Old Otay Mesa Road)/Alta Road intersection. See Section IX for a discussion on how the developer will mitigate its significant direct impacts.

Table 13 – Existing + Unit 1 Arterial LOS Summary

AM Peak Hour									
Intersection	Jurisdiction	Direction of Travel	Existing (A)		Existing + Unit 1 (B)			(B) – (A)	
			Speed (mph)	LOS	Speed (mph)	LOS	Δ Speed	Sig. Impact	
Interim SR-905 - Heritage Rd. to Cactus Rd.	City/Caltrans	EB	35.3	A	34.4	B	(0.9)	No	
		WB	31.2	B	30.8	B	(0.4)		
Interim SR-905 - Cactus Rd. to Britannia Blvd.	City/Caltrans	EB	32.1	B	29.5	B	(2.6)	No	
		WB	38.9	A	38.9	A	0.0		
Interim SR-905 - Britannia Blvd. to La Media Rd.	City/Caltrans	EB	42.6	A	42.3	A	(0.3)	No	
		WB	43.6	A	43.5	A	(0.1)		
Interim SR-905 - La Media Rd. to Piper Ranch Rd.	City/Caltrans/ County	EB	38.5	A	37.2	A	(1.3)	No	
		WB	33.0	B	32.7	B	(0.3)		
Interim SR-905 - Piper Ranch Rd to SR125	City/Caltrans/ County	EB	34.0	B	27.4	C	(6.6)	No	
		WB	29.5	B	31.1	B	1.6		
PM Peak Hour									
Intersection	Jurisdiction	Direction of Travel	Existing (A)		Existing + Unit 1 (B)			(B) – (A)	
			Speed (mph)	LOS	Speed (mph)	LOS	Δ Speed	Sig. Impact	
Interim SR-905 - Heritage Rd. to Cactus Rd.	City/Caltrans	EB	29.3	B	29.8	B	0.5	No	
		WB	24.4	C	24.0	C	(0.4)		
Interim SR-905 - Cactus Rd. to Britannia Blvd.	City/Caltrans	EB	36.1	A	36.0	A	(0.1)	No	
		WB	38.2	A	37.7	A	(0.5)		
Interim SR-905 - Britannia Blvd. to La Media Rd.	City/Caltrans	EB	35.4	A	34.9	B	(0.5)	No	
		WB	39.4	A	38.2	A	(1.2)		
Interim SR-905 - La Media Rd. to Piper Ranch Rd.	City/Caltrans/ County	EB	38.1	A	37.7	A	(0.4)	No	
		WB	28.3	B	26.6	C	(1.7)		
Interim SR-905 - Piper Ranch Rd to SR125	City/Caltrans/ County	EB	35.8	B	33.5	B	(2.3)	No	
		WB	34.2	B	31.3	B	(2.9)		
LOS=Level of Service; Speed is measured in miles per hour (mph); sig=signalized; Δ Speed = Increase (decrease) in speed; Occasionally adding traffic to a critical movement optimizes the segment resulting in increase in speed.									

LOS=Level of Service; Speed is measured in miles per hour (mph); sig=signalized; Δ Speed = Increase (decrease) in speed; Occasionally adding traffic to a critical movement optimizes the segment resulting in increase in speed.

Table 14 - Existing + Unit 1 Intersection Level of Service Summary

Intersections	Jurisdiction	Traffic Control	Critical Move	Existing			Existing + Unit 1										
				AM Peak		PM Peak	AM Peak					PM Peak					
				Delay	LOS	Delay	LOS	Delay	LOS	Proj. Trips	Δ Delay	Sig.	Delay	LOS	Proj. Trips	Δ Delay	Sig.
Otay Mesa Rd (E-W) @ Heritage Rd (N-S)	City/Caltrans	Sig.	Int	30.1	C	29.2	C	34.5	C	538	4.4	No	32.5	C	577	3.3	No
Otay Mesa Rd (E-W) @ Cactus Rd (N-S)	City/Caltrans	Sig.	Int	8.9	A	11.5	B	9.7	A	555	0.8	No	11.2	B	596	(0.3)	No
Otay Mesa Rd (E-W) @ Britannia Blvd (N-S)	City/Caltrans	Sig.	Int	10.3	B	18.8	B	13.3	B	580	3.0	No	19.3	B	623	0.5	No
Otay Mesa Rd (E-W) @ La Media Rd (N-S)	City/Caltrans	Sig.	Int	14.1	B	27.0	C	13.0	B	599	(1.1)	No	28.5	C	642	1.5	No
Otay Mesa Rd (E-W) @ Piper Ranch Rd (N-S)	County/City/Caltrans	Sig.	Int	6.1	A	3.6	A	5.2	A	607	(0.9)	No	4.1	A	652	0.5	No
Otay Mesa Rd (E-W) @ SR-125 SB (N-S)	County/City/SBX	Sig.	Int	11.2	B	2.5	A	13.4	B	746	2.2	No	3.2	A	706	0.7	No
Otay Mesa Rd (E-W) @ SR-125 NB (N-S)	County/City/SBX	Sig.	Int	0.9	A	5.6	A	1.6	A	781	0.7	No	4.1	A	836	(1.4)	No
Otay Mesa Rd (E-W) @ SR-905 (N-S)	County/City/SBX	Sig.	Int	16.1	B	21.1	C	16.6	B	781	0.5	No	22.2	C	836	1.4	No
Otay Mesa Rd (E-W) @ Sanyo Av (N-S)	County/City	Sig.	Int	4.1	A	12.6	B	3.4	A	781	(0.7)	No	22.8	C	836	13.5	No
Otay Mesa Rd (E-W) @ Enrico Fermi Dr (N-S)	County	Sig.	Int	10.4	B	9.4	A	26.8	C	867	16.4	No	13.5	B	930	4.1	No
Otay Mesa Rd (E-W) @ Alta Rd (N-S)	County	AWSC	EB	32.5	D	9.8	A	463.5	F	694	431.0		31.9	D	279	22.1	Yes
			WB	0.0	A	0.0	A	0	0.0		0.0	A	0	0.0			
			NB	9.3	A	8.2	A	12.8	B	0	3.5	Yes	221.8	F	650	213.6	
			SB	9.8	A	18.3	C	11.0	B	173	1.2		205.3	F	0	187.0	
			Int	27.6	D	17.2	C	369.3	F	867	341.7		173.9	F	929	156.7	
Airway Rd (E-W) @ La Media Rd (N-S)	City	AWSC	EB	11.1	B	14.5	B	11.2	B	0	0.1		15.0	B	0	0.5	No
			WB	10.9	B	13.9	B	11.1	B	9	0.2		15.5	B	33	1.6	
			NB	11.4	B	15.4	C	11.5	B	0	0.1	No	16.0	C	0	0.6	
			SB	13.3	B	12.2	B	13.4	B	0	0.1		12.6	B	0	0.4	
			Int	12.3	B	13.9	B	12.4	B	9	0.1		14.6	B	33	0.7	
LOS=Level of Service; Delay is measured in seconds/vehicle; sig=signalized; AWSC=All Way Stop Controlled; TWSC = Two-Way Stop-Controlled; OWSC=One Way Stop Controlled; Int = Intersection; NB = Northbound Approach; SB = Southbound Approach; EB = Eastbound Approach; WB = Westbound Approach; SBX = South Bay Expressway; E-W = East-West Roadway; N-S = North-South Roadway; Bold = Jurisdiction which significance criteria is based on A Delay = Increase (decrease) in delay; Occasionally adding traffic to a critical movement optimizes the intersection resulting in a decrease in delay																	

LOS=Level of Service; Delay is measured in seconds/vehicle; sig=signalized; AWSC=All Way Stop Controlled; TWSC=Two-Way Stop Controlled; OWSC=One Way Stop Controlled; Int = Intersection; NB = Northbound Approach; SB = Southbound Approach; EB = Eastbound Approach; WB = Westbound Approach; SBX = South Bay Expressway; E-W = East-West Roadway; N-S = North-South Roadway; Bold = Jurisdiction which significance criteria is based on Δ Delay = Increase (decrease) in delay; Occasionally adding traffic to a critical movement optimizes the intersection resulting in a decrease in delay

Table 14 (Continued) - Existing + Unit 1 Intersection Level of Service Summary

Intersections	Jurisdiction	Traffic Control	Critical Move	Existing						Existing + Unit 1					
				AM Peak			PM Peak			AM Peak			PM Peak		
				Delay	LOS	Delay	Delay	LOS	Delay	Delay	LOS	Proj. Trips	Δ Delay	Sig.	Delay
Airway Rd (E-W) @ Sanyo Av (N-S)	City	AWSC	EB	10.1	B	9.9	9.9	A	10.2	B	0	0	0.1		10.0
			WB	8.1	A	9.1	9.1	A	8.2	A	9	9	0.1		9.8
			NB	8.0	A	9.2	9.2	A	8.0	A	0	0	0.0	No	9.4
			SB	9.6	A	8.0	8.0	A	9.6	A	0	0	0.0		8.2
			Int	9.3	A	9.1	9.1	A	9.4	A	9	9	0.1		9.5
Airway Rd (E-W) @ Paseo De Las Americas (N-S)	County/City	OWSC	NB	9.7	A	10.6	10.6	B	9.7	A	0	0	0.0	No	11.1
Airway Rd (E-W) @ Michael Faraday (N-S)	County/City	OWSC	NB	9.6	A	9.6	9.6	A	9.2	A	0	0	(0.4)	No	9.7
Airway Rd (E-W) @ Enrico Fermi Dr (N-S)	County/City	Sig.	Int	6.6	A	13.0	13.0	B	6.3	A	87	87	(0.3)	No	7.8
Siempre Viva Rd (E-W) @ La Media Rd (N-S)	City	AWSC	EB	8.0	A	8.4	8.4	A	8.0	A	0	0	0.0		8.5
			WB	7.8	A	8.5	8.5	A	7.8	A	0	0	0.0		8.7
			NB	7.6	A	8.4	8.4	A	7.6	A	0	0	0.0	No	8.5
			SB	9.8	A	11.0	11.0	B	10.0	A	9	9	0.2		11.8
			Int	9.2	A	9.9	9.9	A	9.3	A	9	9	0.1		10.5
Siempre Viva Rd (E-W) @ SR-905 SB off to Siempre Viva EB (N-S)	Caltrans	Sig.	Int	7.0	A	8.5	8.5	A	7.2	A	9	9	0.2	No	8.8
Siempre Viva Rd (E-W) @ SR-905 SB off to Siempre Viva WB (N-S)	Caltrans	OWSC	SB	14.3	B	13.3	13.3	B	14.4	B	0	0	0.1	No	13.3
Siempre Viva Rd (E-W) @ SR-905 NB Ramp (N-S)	Caltrans	Sig.	Int	10.8	B	11.0	11.0	B	10.7	B	44	44	(0.1)	No	10.9
Siempre Viva Rd (E-W) @ Paseo De Las Americas (N-S)	City	Sig.	Int	24.7	C	40.0	40.0	D	24.5	C	44	44	(0.2)	No	40.7
Siempre Viva Rd (E-W) @ Michael Faraday (N-S)	City	TWSC	NB	14.5	B	13.2	13.2	B	15.3	C	0	0	0.8	No	13.8
			SB	15.9	C	12.3	12.3	B	16.7	C	0	0	0.8	No	12.8
Siempre Viva Rd (E-W) @ Enrico Fermi Dr (N-S)	County/City	Sig.	Int	12.6	B	13.7	13.7	B	12.6	B	79	79	0.0	No	13.7
Paseo De La Fuente (E-W)	County	Sig.	Int	2.7	A	12.6	12.6	B	2.2	A	0	0	(0.5)	No	12.6

LOS=Level of Service; Delay is measured in seconds/vehicle; sig=signalized; AWSC=All Way Stop Controlled; TWSC = Two-Way Stop Controlled; OWSC=One Way Stop Controlled;
Int = Intersection; NB = Northbound Approach; SB = Southbound Approach; EB = Eastbound Approach; WB = Westbound Approach;
SBX = South Bay Expressway; E-W = East-West Roadway; N-S = North-South Roadway; **Bold** = Jurisdiction which significance criteria is based on
Δ Delay = Increase (decrease) in delay; Occasionally adding traffic to a critical movement optimizes the intersection resulting in a decrease in delay

Existing + Unit 1 – ILV Analysis

Table 15 summarizes the existing without and with project conditions intersection ILV analysis. As shown in Table 15, with the exception of the Otay Mesa Road/Heritage Road, Otay Mesa Road/Cactus Road and Otay Mesa Road/SR-905 Connector all intersections operate under stable flow during the AM and PM peak hours under existing without and with project conditions. A copy of the ILV worksheets can be found in Appendix E.

The Otay Mesa Road/Heritage Road currently operates under stable flow during both the AM and PM peak hours. With addition to Unit 1 of the project the Otay Mesa Road/Heritage Road intersection operates under unstable flow during the AM peak hour and stable flow during the PM peak hour.

The Otay Mesa Road/Cactus Road currently operates under stable flow during both the AM and PM peak hours. With addition to Unit 1 of the project the Otay Mesa Road/Heritage Road intersection operates under unstable flow during the AM peak hour and stable flow during the PM peak hour.

The Otay Mesa Road/SR-905 Connector currently operates under stable flow during both the AM and PM peak hours. With addition to Unit 1 of the project the Otay Mesa Road/ SR-905 Connector intersection operates under stable flow during the AM peak hour and unstable flow during the PM peak hour.

Table 15 – Existing + Unit 1 ILV Analysis								
Intersection	Existing				Existing + Unit 1			
	AM Peak Hour		PM Peak Hour		AM Peak		PM Peak	
	ILV/Hr	Operating Condition	ILV/Hr	Operating Condition	ILV/Hr	Operating Condition	ILV/Hr	Operating Condition
Otay Mesa Rd (E-W) @ Heritage Rd (N-S)	1,115	Stable Flow	1,049	Stable Flow	1,268	Unstable Flow	1,186	Stable Flow
Otay Mesa Rd (E-W) @ Cactus Rd (N-S)	1,129	Stable Flow	1,055	Stable Flow	1,206	Unstable Flow	1,122	Stable Flow
Otay Mesa Rd (E-W) @ Britannia Blvd (N-S)	708	Stable Flow	936	Stable Flow	944	Stable Flow	1,077	Stable Flow
Otay Mesa Rd (E-W) @ La Media Rd (N-S)	740	Stable Flow	924	Stable Flow	897	Stable Flow	1,038	Stable Flow
Otay Mesa Rd (E-W) @ Piper Ranch Rd (N-S)	696	Stable Flow	766	Stable Flow	989	Stable Flow	864	Stable Flow
Otay Mesa Rd (E-W) @ SR-125 SB (N-S)	701	Stable Flow	677	Stable Flow	667	Stable Flow	725	Stable Flow
Otay Mesa Rd (E-W) @ SR-125 NB (N-S)	417	Stable Flow	754	Stable Flow	659	Stable Flow	982	Stable Flow
Otay Mesa Rd (E-W) @ SR-905 Connector (N-S)	700	Stable Flow	911	Stable Flow	1,013	Stable Flow	1,204	Unstable Flow
Siempre Viva (E-W) @ SR-905 SB to EB Siempre Viva (N-S)	363	Stable Flow	463	Stable Flow	350	Stable Flow	551	Stable Flow
Siempre Viva (E-W) @ SR-905 NB Ramp (N-S)	372	Stable Flow	483	Stable Flow	370	Stable Flow	494	Stable Flow
ILV/Hour = Intersecting Lane Vehicles Per Hour; <1,200 ILV/Hour = Stable Flow; 1,200 - 1,500 ILV/Hour = Unstable Flow; 1,500 ILV/Hour = Capacity, Stop and Go Operation E-W = East-West Roadway; N-S = North-South Roadway								

EXISTING PLUS PROJECT UNITS 1-2 LEVEL OF SERVICE CONDITIONS

This section analyzes the existing conditions plus Units 1-2 of the proposed project. Figure 13 illustrates the existing plus Units 1-2 project traffic volumes.

Existing + Units 1-2 – Roadway Segments

Table 16 summarizes the daily roadway segment level of service analysis under the existing without and with Units 1-2 project conditions. As shown in Table 16, the following roadway segments operate at an unacceptable LOS E or F under existing plus Units 1-2 project conditions:

- Interim SR-905 (Otay Mesa Road) between Heritage Road and Britannia Boulevard (LOS F without and with Units 1-2 of the project);
- Interim SR-905 (Otay Mesa Road) between Britannia Boulevard and Piper Ranch Road (LOS E without the project and LOS F with Units 1-2 of the project);
- Interim SR-905 (Otay Mesa Road) between Piper Ranch Road and the SR-125 (LOS C without the project and LOS E with Units 1-2 of the project);
- Otay Mesa Road (Old Otay Mesa Road) between Sanyo Avenue and Enrico Fermi Drive (LOS D without the project and LOS F with Units 1-2 of the project);
- Otay Mesa Road (Old Otay Mesa Road) between Enrico Fermi Drive and Alta Road (LOS C without the project and LOS F with Units 1-2 of the project);
- Airway Road between SR-905 and Sanyo Avenue (LOS E without and with Units 1-2 of the project – Airway Road is presently closed by Caltrans); and
- State Route 905 between Otay Mesa Road and Siempre Viva Road (LOS E without and with Units 1-2 of the project).

The segments of Interim SR-905 (Otay Mesa Road) between Heritage Road and Britannia Boulevard operate at an unacceptable LOS F under existing without and with Units 1-2 of the proposed project conditions. With the addition of between 7,613 and 7,855 ADT from Units 1-2 of the project, the volume-to-capacity (v/c) ratio will be increased by a range of 0.13 to 0.14 and the level of service on these segments of Interim SR-905 (Otay Mesa Road) will continue to operate at LOS F. The increase in v/c exceeds the 0.01 allowed per the City of San Diego's thresholds of significance for a roadway segment operating at LOS F, thus, based on average daily conditions Units 1-2 of the project has a significant direct impact on these segments of Interim SR-905 (Otay Mesa Road). However, based on the arterial roadway segment analysis the segments of Interim SR-905 (Otay Mesa Road) between Heritage Road and Britannia Boulevard operate at an acceptable level of service and the project is not considered to have a significant direct impact. See the arterial roadway segment section for more details.

The segments of Interim SR-905 (Otay Mesa Road) from Britannia Boulevard to Piper Ranch Road operate at an unacceptable LOS E under existing conditions. With the addition of between 8,217 and 8,338 ADT from Units 1-2 of the project, the v/c ratio will be increased by a range of 0.14 to 0.18 and the level of service on these segments of Interim SR-905 (Otay Mesa Road) will degrade to LOS F. The increase in v/c exceeds the 0.01 allowed per the City of San Diego's thresholds of significance for a roadway segment operating at LOS F, thus, based on average daily conditions Units 1-2 of the project has a significant direct impact on these segments of Interim SR-905 (Otay Mesa Road). However, based on the arterial roadway segment analysis the segments of Interim SR-905 (Otay Mesa Road) between Britannia Boulevard and Piper Ranch Road operate at an acceptable level of service and the project is not considered to have a significant direct impact. See the arterial roadway segment section for more details.

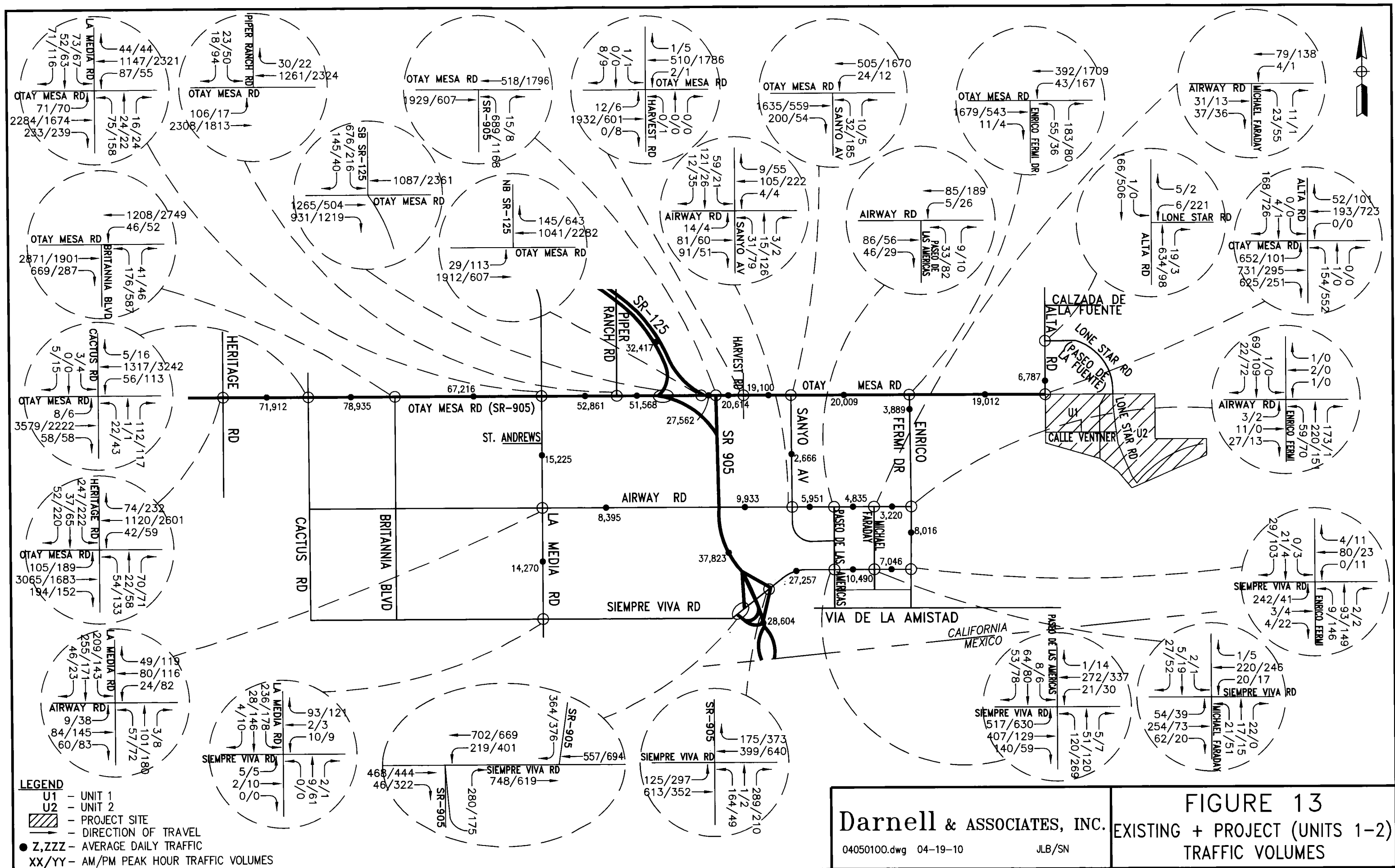


Table 16 – Existing + Units 1-2 Roadway Segment Daily LOS Summary

Roadway Segment	Jurisdiction	Class	Capacity (LOS E)	Existing 2008			Existing + Units 1-2						
				ADT	V/C	LOS	Proj. Tr	ADT	V/C	LOS	ΔV/C	Sig	
Interim SR-905 (Otay Mesa Rd) Heritage Rd to Cactus Rd Cactus Rd to Britannia Blvd Britannia Blvd to La Media Rd La Media Rd to Piper Ranch Rd Piper Ranch Rd to SR-125	City/Caltrans	6P	60,000	64,299	1.07	F	7,613	71,912	1.20	F	0.13	Yes ^(d)	
	City/Caltrans	6P	60,000	71,080	1.19	F	7,855	78,935	1.32	F	0.14	Yes ^(d)	
	City/Caltrans	6P	60,000	58,999	0.98	E	8,217	67,216	1.12	F	0.14	Yes ^(d)	
	City/Caltrans	5M	45,000	44,523	0.99	E	8,338	52,861	1.17	F	0.18	Yes ^(d)	
	County/City/Caltrans	6P	57,000	43,109	0.73	C	8,459	51,568	0.90	E	0.14	Yes ^(d)	
	Otay Mesa Rd (Old Otay Mesa Rd) SR-125 to Interim SR-905 Connector Interim SR-905 Connector to Harvest Rd Harvest Rd to Sanyo Av Sanyo Av to Enrico Fermi Dr Enrico Fermi Dr to Alta Rd	County/City/Caltrans	5M(a)	47,000	16,686	0.36	A	10,876	27,562	0.59	B	0.23	No
County/City/Caltrans		5M(a)	47,000	9,738	0.21	A	10,876	20,614	0.44	B	0.23	No	
County/City/Caltrans		4M	37,000	8,224	0.22	A	10,876	19,100	0.52	B	0.30	No	
County/City		LC	16,200	9,133	0.56	D	10,876	20,009	1.24	F	0.68	Yes	
County		LC	16,200	6,928	0.43	C	12,084	19,012	1.17	F	0.74	Yes	
Airway Road La Media Rd to SR-905 SR-905 to Sanyo Av (c) Sanyo Av to Paseo de las Americas Paseo de las Americas to Michael Faraday Dr Michael Faraday Dr to Enrico Fermi Dr Enrico Fermi Dr to Airway Pl		City	2C	15,000	8,093	0.54	C	302	8,395	0.56	C	0.02	No
	City	2C	10,000	9,631	0.96	E	302	9,933	0.99	E	0.03	Yes	
	City	4M	40,000	5,649	0.14	C	302	5,951	0.15	C	0.01	No	
	County/City	4M	37,000	4,513	0.12	C	302	4,835	0.13	C	0.01	No	
	County/City	LC	16,200	2,918	0.18	B	302	3,220	0.20	B	0.02	No	
	County	4C	34,200	1,160	0.03	A	0	1,160	0.03	A	0.00	No	
Siempre Viva Road SR-905 NB to Paseo de las Americas Paseo de las Americas to Michael Faraday Dr Michael Faraday Dr to Enrico Fermi Dr Enrico Fermi Dr to Airway Pl	City	6P	60,000	26,653	0.44	B	604	27,257	0.45	B	0.01	No	
	City	4C	30,000	9,886	0.33	A	604	10,490	0.35	B	0.02	No	
	City	4C	30,000	6,442	0.22	A	604	7,046	0.23	A	0.02	No	
	County	LC	16,200	830	0.05	A	0	830	0.05	A	0.00	No	
La Media Road Otay Mesa Rd to St. Andrews	City	4C	30,000	15,225	0.51	C	0	15,225	0.51	C	0.00	No	
	SR-125 North of Otay Mesa Rd	4-Fwy	(b)	30,000	0.33	A	2,417	32,417	0.36	A	0.03	No	
Existing SR-905 Otay Mesa Rd to Siempre Viva Rd South of Siempre Viva Rd		City/Caltrans	4M	40,000	37,823	0.95	E	0	37,823	0.95	E	0.00	No
	City/Caltrans	4-Fwy	(b)	28,000	0.32	A	604	28,604	0.32	A	0.00	N/A	
Sanyo Avenue Otay Mesa Rd to Airway Rd	City	4C	30,000	2,666	0.09	A	0	2,666	0.09	A	0.00	No	
	Enrico Fermi Drive Otay Mesa Rd to Airway Rd Airway Rd to Siempre Viva Rd	TC	19,000	2,681	0.14	A	1,208	3,889	0.20	B	0.06	No	
City		4M	40,000	7,110	0.19	A	906	8,016	0.20	A	0.02	No	

City = Capacity of city segments is based on the upper limits of LOS E per the City of San Diego; County = Capacity of county segments is based on the upper limits of LOS E per the County of San Diego;

SBX = South Bay Expressway; Bold = Jurisdiction which capacity is based on; ADT = Average Daily Traffic; LOS = Level of Service; V/C = Volume-to LOS E Capacity Ratio; Fwy = Freeway; 6P = 6-Lane Prime Arterial;

5M = 5-Lane Major Arterial; 4M = 4-Lane Major Arterial; 4C = 4-Lane Collector; 2C = 2-Lane Collector with no fronting property; LC = Light Collector; TC = Town Collector

(a) Additional lanes may be provided to accommodate turning movements and freeway access; hence the roadway capacity was assumed to be 47,000 ADT at LOS E (half way between a 4M & 6P).

(b) Capacity based on Caltrans District 11 & HCM procedures, See Appendix L for LOS calculations.

(c) Field checks conducted in January 2010 found that this segment of Airway Road was currently closed to traffic.

(d) Table 17 of the Arterial Roadway Segment analysis shows that the roadway segment does not have a significant impact.

The segment of Interim SR-905 (Otay Mesa Road) between Piper Ranch Road and SR-125 operates at an acceptable LOS C under existing conditions. With the addition of 8,459 ADT from Units 1-2 of the project, the v/c ratio will be increased by 0.14 and the level of service on this segment of Interim SR-905 (Otay Mesa Road) will degrade to LOS E. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F). Since Units 1-2 of the project lowers the existing level of service from LOS C to LOS E, based on average daily conditions, Units 1-2 of the project is considered to have a significant direct impact. However, based on the arterial roadway segment analysis the segment of Interim SR-905 (Otay Mesa Road) between Piper Ranch Road and the SR-125 operates at an acceptable level of service and the project is not considered to have a significant direct impact. See the arterial roadway segment section for more details.

The segment of Otay Mesa Road (Old Otay Mesa Road) between Sanyo Avenue and Enrico Fermi Drive operates at LOS D under existing conditions. With the addition of 10,876 ADT from Units 1-2 of the project, this segment of Otay Mesa Road (Old Otay Mesa Road) will operate at LOS F. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F). Since Units 1-2 of the project lowers the existing level of service from LOS D to LOS F, based on average daily conditions, Units 1-2 of the project is considered to have a significant direct impact on the segment of Otay Mesa Road (Old Otay Mesa Road) between Sanyo Avenue and Enrico Fermi Drive. See Section IX for a discussion on how the developer will mitigate its significant direct impacts.

The segment of Otay Mesa Road (Old Otay Mesa Road) between Enrico Fermi Drive and Alta Road operates at LOS C under existing conditions. With the addition of 12,084 ADT from Units 1-2 of the project, this segment of Otay Mesa Road (Old Otay Mesa Road) will operate at LOS F. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F). Since Units 1-2 of the project lowers the existing level of service from LOS C to LOS F, based on average daily conditions, Units 1-2 of the project is considered to have a significant direct impact on the segment of Otay Mesa Road (Old Otay Mesa Road) between Enrico Fermi Drive to Alta Road. See Section IX for a discussion on how the developer will mitigate its significant direct impacts.

Although based on February 2008 count data, the segment of Airway Road between SR-905 and Sanyo Avenue operates at LOS E under existing conditions. This segment of Airway Road; however, is currently closed to traffic for the construction of the structures at the SR-905/Airway Road intersection. By the time Units 1-2 of the proposed project comes on line this segment of Airway Road is anticipated to be re-opened, thus project traffic is added to the segment of Airway Road between the SR-905 and Sanyo Avenue. With the addition of 302 ADT from Units 1-2 of the proposed project the v/c ratio will be increased by 0.03 and the level of service on this segment of Airway Road will operate at LOS E. The increase in v/c exceeds the 0.02 allowed per the City of San Diego's thresholds of significance for a roadway segment operating at LOS E, thus, based on average daily conditions Units 1-2 of the project has a significant direct impact on the segment of Airway Road between the SR-905 and Sanyo Avenue. See Section IX for a discussion on how the developer will mitigate its significant direct impacts.

The segment of SR-905 between Otay Mesa Road and Siempre Viva Road operates at LOS E under existing without and with Units 1-2 of the project conditions. Since the project is not adding any traffic to this segment the v/c ratio will not be increased with the addition of the project; thus, Units 1-2 of the proposed project is not considered to have a significant impact.

All other roadway segments continue to operate at LOS D or better under existing plus Units 1-2 of the proposed project conditions.

Existing + Units 1-2 – Arterial Roadway Segments

A review of the 24 hour counts sheets for Otay Mesa Road, found that the traffic flow is rather constant between the hours of 7:00am to 6:00 pm, compared to most 5-lane and 6-lane roadways which have high peak hour flows in the morning and afternoon. Further it should be noted that the Otay Mesa Port-of-Entry is open 24 hours a day with long lines crossing the border. This results in the spread of vehicles through the day resulting in increased daily traffic volumes. Since level of service based on daily volumes assumes significant increases in traffic counts during the peak hour periods, daily capacity analysis is not particularly accurate for Otay Mesa Road. Therefore, in addition to evaluating the roadway based on daily capacity it was also analyzed based on the Highway Capacity Manual's (HCM) Arterial Segment Methodology utilizing the Synchro software. Since the arterial segment analysis determines level of service based on the average travel speeds that occur on the roadway it provides a more accurate representation of the travel patterns and levels of service for Otay Mesa Road. The results of the analysis are summarized in Table 15.

Based on daily roadway segment capacities, the project is part of significant impact to the roadway segments of Interim SR-905 (Otay Mesa Road); however, as shown in the arterial roadway segment analysis in Table 15 the failing segments of the Interim SR-905 (Otay Mesa Road) operate under acceptable level of service conditions during both the peak hours. A copy of the Synchro worksheets can be found in Appendix D and F.

Existing + Units 1-2 – Intersections

Existing + Units 1-2 – Synchro Analysis

Table 18 summarizes the existing plus Units 1-2 project conditions intersection level of service summary during the AM and PM peak hours. (A copy of the Synchro worksheets can be found in Appendix D and F.) As shown in Table 18, the following intersections operate at LOS F during at least one of the peak hours under existing plus Units 1-2 project conditions:

- Otay Mesa Road/Interim SR-905 Connector (LOS C or better without project and LOS E during the PM peak hour with Units 1-2 of the project);
- Otay Mesa Road (Old Otay Mesa Road)/Sanyo Avenue (LOS B without the project and LOS F during the PM peak hour with Units 1-2 of the project);
- Otay Mesa Road (Old Otay Mesa Road)/Enrico Fermi Drive (LOS B or better without project and LOS F during the PM peak hour with Units 1-2 of the project); and
- Otay Mesa Road (Old Otay Mesa Road)/Alta Road (Total intersection operates at LOS B or better without the project and LOS F during both peak hours with Units 1-2 of the project).

The Otay Mesa Road/Interim SR-905 Connector intersection operates at LOS B during the AM peak hour and LOS C during the PM peak hour under existing conditions. With the addition of 1,632 PM peak hour trips from Units 1-2 of the project, the PM peak hour delay will be increased by 48.9 seconds degrading the existing LOS to LOS E. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F). Since the proposed project lowers the existing level of service from an acceptable LOS C to an unacceptable LOS F, Units 1-2 of the proposed project is considered to have a significant direct impact at the Otay Mesa Road/Interim SR-905 Connector intersection. See Section IX for a discussion on how the developer will mitigate its significant direct impact.

Table 17 – Existing + Units 1-2 Arterial LOS Summary

AM Peak Hour									
Intersection	Jurisdiction	Direction of Travel	Existing (A)		Existing + Units 1-2 (B)		(B) – (A)		
			Speed (mph)	LOS	Speed (mph)	LOS	Δ Speed	Sig. Impact	
Interim SR-905 - Heritage Rd. to Cactus Rd.	City/Caltrans	EB WB	35.3 31.2	A B	30.1 30.4	B B	(5.2) (0.8)	No	
Interim SR-905 - Cactus Rd. to Britannia Blvd.	City/Caltrans	EB WB	32.1 38.9	B A	23.5 39.0	C A	(8.6) 0.1	No	
Interim SR-905 - Britannia Blvd. to La Media Rd.	City/Caltrans	EB WB	42.6 43.6	A A	41.4 43.4	A A	(1.2) (0.2)	No	
Interim SR-905 - La Media Rd. to Piper Ranch Rd.	City/Caltrans/ County	EB WB	38.5 33.0	A B	33.8 32.4	B B	(4.7) (0.6)	No	
Interim SR-905 - Piper Ranch Rd to SR125	City/Caltrans/ County	EB WB	34.0 29.5	B B	23.6 31.3	C B	(10.4) 1.8	No	
PM Peak Hour									
Intersection	Jurisdiction	Direction of Travel	Existing (A)		Existing + Units 1-2 (B)		(B) – (A)		
			Speed (mph)	LOS	Speed (mph)	LOS	Δ Speed	Sig. Impact	
Interim SR-905 - Heritage Rd. to Cactus Rd.	City/Caltrans	EB WB	29.3 24.4	B C	30.6 22.2	B C	1.3 (2.2)	No	
Interim SR-905 - Cactus Rd. to Britannia Blvd.	City/Caltrans	EB WB	36.1 38.2	A A	34.1 35.9	B A	(2.0) (2.3)	No	
Interim SR-905 - Britannia Blvd. to La Media Rd.	City/Caltrans	EB WB	35.4 39.4	A A	34.3 36.5	B A	(1.1) (2.9)	No	
Interim SR-905 - La Media Rd. to Piper Ranch Rd.	City/Caltrans/ County	EB WB	38.1 28.3	A B	37.1 24.3	A C	(1.0) (4.0)	No	
Interim SR-905 - Piper Ranch Rd to SR125	City/Caltrans/ County	EB WB	35.8 34.2	B B	32.4 31.3	B B	(3.4) (2.9)	No	
LOS=Level of Service; Speed is measured in miles per hour (mph); sig=signalized; Δ Speed = Increase (decrease) in speed; SBX = South Bay Expressway, Occasionally adding traffic to a critical movement optimizes the segment resulting in increase in speed.									

Table 18 - Existing + Units 1-2 Intersection Level of Service Summary

Intersections	Jurisdiction	Traffic Control	Critical Move	Existing						Existing + Units 1-2					
				AM Peak			PM Peak			AM Peak			PM Peak		
				Delay	LOS	Δ	Delay	LOS	Δ	Delay	LOS	Δ	Delay	LOS	Δ
Otay Mesa Rd (E-W) @ Heritage Rd (N-S)	City/Caltrans	Sig.	Int	30.1	C		29.2	C		49.0	D		37.1	D	
Otay Mesa Rd (E-W) @ Cactus Rd (N-S)	City/Caltrans	Sig.	Int	8.9	A		11.5	B		15.0	B		11.8	B	
Otay Mesa Rd (E-W) @ Britannia Blvd (N-S)	City/Caltrans	Sig.	Int	10.3	B		18.8	B		23.0	C		22.1	C	
Otay Mesa Rd (E-W) @ La Media Rd (N-S)	City/Caltrans	Sig.	Int	14.1	B		27.0	C		13.3	B		31.6	C	
Otay Mesa Rd (E-W) @ Piper Ranch Rd (N-S)	County/City/Caltrans	Sig.	Int	6.1	A		3.6	A		8.0	A		4.3	A	
Otay Mesa Rd (E-W) @ SR-125 SB (N-S)	County/City/SBX	Sig.	Int	11.2	B		2.5	A		13.1	B		3.8	A	
Otay Mesa Rd (E-W) @ SR-125 NB (N-S)	County/City/SBX	Sig.	Int	0.9	A		5.6	A		4.1	A		7.3	A	
Otay Mesa Rd (E-W) @ SR-905 (N-S)	County/City/SBX	Sig.	Int	16.1	B		21.1	C		31.0	C		80.5	E	
Otay Mesa Rd (E-W) @ Sanyo Av (N-S)	County/City	Sig.	Int	4.1	A		12.6	B		7.2	A		164.0	F	
Otay Mesa Rd (E-W) @ Enrique Fermi Dr (N-S)	County	Sig.	Int	10.4	B		9.4	A		180.3	F		13.9	B	
Otay Mesa Rd (E-W) @ Alta Rd (N-S)	County	AWSC	EB	32.5	D		9.8	A		1050.8	F		454.6	F	
			WB	0.0	A		0.0	A		12.8	B		576.6	F	
			NB	9.3	A		8.2	A		13.4	B		361.7	F	
			SB	9.8	A		18.3	C		12.2	B		518.9	F	
			Int	27.6	D		17.2	C		837.3	F		486.2	F	
Airway Rd (E-W) @ La Media Rd (N-S)	City	AWSC	EB	11.1	B		14.5	B		11.2	B		15.5	C	
			WB	10.9	B		13.9	B		11.3	B		17.3	C	
			NB	11.4	B		15.4	C		11.6	B		16.6	C	
			SB	13.3	B		12.2	B		13.6	B		13.0	B	
			Int	12.3	B		13.9	B		12.5	B		15.5	C	

LOS=Level of Service; Delay is measured in seconds/vehicle; sig=signalized; AWSC=All Way Stop Controlled; TWSC=Two-Way Stop Controlled; OWSC=One Way Stop Controlled; Int = Intersection; NB = Northbound Approach; SB = Southbound Approach; EB = Eastbound Approach; WB = Westbound Approach; SBX = South Bay Expressway; E-W = East-West Roadway; N-S = North-South Roadway; **Bold** = Jurisdiction which significance criteria is based on
 Δ Delay = Increase (decrease) in delay; Occasionally adding traffic to a critical movement optimizes the intersection resulting in a decrease in delay

Table 18 (Continued) - Existing + Units 1-2 Intersection Level of Service Summary																	
Intersections	Jurisdiction	Traffic Control	Existing				Existing + Units 1-2										
			AM Peak		PM Peak		AM Peak			PM Peak							
			Delay	LOS	Delay	LOS	Delay	LOS	Proj. Trips	Δ Delay	Sig.	Delay	LOS	Proj. Trips	Δ Delay	Sig.	
Airway Rd (E-W) @ Sanyo Av (N-S)	City	AWSC	EB	10.1	B	9.9	A	10.2	B	0	0.1		10.1	A	0	0.2	
			WB	8.1	A	9.1	A	8.3	A	17	0.2		10.5	B	63	1.4	
			NB	8.0	A	9.2	A	8.0	A	0	0.0	No	9.5	A	0	0.3	No
			SB	9.6	A	8.0	A	9.7	A	0	0.1		8.3	A	0	0.3	
			Int	9.3	A	9.1	A	9.4	A	17	0.1		9.9	A	63	0.8	
Airway Rd (E-W) @ Paseo De Las Americas (N-S)	County/City	OWSC	NB	9.7	A	10.6	B	9.8	A	0	0.1	No	11.4	B	0	0.8	No
Airway Rd (E-W) @ Michael Faraday (N-S)	County/City	OWSC	NB	9.6	A	9.6	A	9.6	A	0	0.0	No	10.0	A	0	0.4	No
Airway Rd (E-W) @ Enrico Fermi Dr (N-S)	County/City	Sig.	Int	6.6	A	13.0	B	6.3	A	169	(0.3)	No	8.1	A	180	(4.9)	No
Siempre Viva Rd (E-W) @ La Media Rd (N-S)	City	AWSC	EB	8.0	A	8.4	A	8.0	A	0	0.0		8.6	A	0	0.2	
			WB	7.8	A	8.5	A	7.9	A	0	0.1		8.8	A	0	0.3	
			NB	7.6	A	8.4	A	7.6	A	0	0.0	No	8.6	A	0	0.2	No
			SB	9.8	A	11.0	B	10.1	B	17	0.3		12.7	B	63	1.7	
			Int	9.2	A	9.9	A	9.4	A	17	0.2		11.2	B	63	1.3	
Siempre Viva Rd (E-W) @ SR-905 SB off to Siempre Viva EB (N-S)	Caltrans	Sig.	Int	7.0	A	8.5	A	7.4	A	17	0.4	No	9.2	A	63	0.7	No
Siempre Viva Rd (E-W) @ SR-905 SB off to Siempre Viva WB (N-S)	Caltrans	OWSC	SB	14.3	B	13.3	B	14.5	B	0	0.2	No	13.2	B	0	(0.1)	No
Siempre Viva Rd (E-W) @ SR-905 NB Ramp (N-S)	Caltrans	Sig.	Int	10.8	B	11.0	B	10.6	B	85	(2)	No	10.9	B	90	(0.1)	No
Siempre Viva Rd (E-W) @ Paseo De Las Americas (N-S)	City	Sig.	Int	24.7	C	40.0	D	24.3	C	85	(0.4)	No	41.3	D	90	1.3	No
Siempre Viva Rd (E-W) @ Michael Faraday (N-S)	City	TWSC	NB	14.5	B	13.2	B	16.1	C	0	1.6	No	14.4	B	0	1.2	No
			SB	15.9	C	12.3	B	17.5	C	0	1.6	No	13.4	B	0	1.1	No
Siempre Viva Rd (E-W) @ Enrico Fermi Dr (N-S)	County/City	Sig.	Int	12.6	B	13.7	B	12.6	B	153	0.0	No	13.0	B	117	(0.7)	No
Alta Rd (N-S) @ Paseo De La Fuente (E-W)	County	Sig.	Int	2.7	A	12.6	B	2.2	A	0	(0.5)	No	12.6	A	0	0.0	No
LOS=Level of Service; Delay is measured in seconds/vehicle; sig=signalized; AWSC=All Way Stop Controlled; TWSC = Two-Way Stop-Controlled; OWSC=One Way Stop Controlled; Int = Intersection; NB = Northbound Approach; SB = Southbound Approach; EB = Eastbound Approach; WB = Westbound Approach; SBX = South Bay Expressway; E-W = East-West Roadway; N-S = North-South Roadway; Bold = Jurisdiction which significance criteria is based on																	
A Delay = Increase (decrease) in delay: Occasionally adding traffic to a critical movement optimizes the intersection resulting in a decrease in delay																	

LOS=Level of Service; Delay is measured in seconds/vehicle; sig=signalized; AWSC=All Way Stop Controlled; TWSC = Two-Way Stop-Controlled; OWSC=One Way Stop Controlled; Int = Intersection; NB = Northbound Approach; SB = Southbound Approach; EB = Eastbound Approach; WB = Westbound Approach; SBX = South Bay Expressway; E-W = East-West Roadway; N-S = North-South Roadway; **Bold** = Jurisdiction which significance criteria is based on Δ Delay = Increase (decrease) in delay; Occasionally adding traffic to a critical movement optimizes the intersection resulting in a decrease in delay

The Otay Mesa Road (Old Otay Mesa Road)/Sanyo Avenue intersection operates at LOS A during the AM peak hour and LOS B during the PM peak hour under existing conditions. With the addition of 1,632 PM peak hour trips from Units 1-2 of the project to the intersection, the intersection will degrade to LOS F. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to and unacceptable level (LOS E or F). Thus, per the PFE Units 1-2 of the project is considered to have a significant direct impact at the Otay Mesa Road (Old Otay Mesa Road)/Sanyo Avenue intersection. See Section IX for a discussion on how the developer will mitigate its significant direct impacts.

The Otay Mesa Road (Old Otay Mesa Road)/Enrico Fermi Drive intersection operates at LOS B during the AM peak hour and LOS A during the PM peak hour under existing conditions. With the addition of 1,632 AM peak hour trips from Units 1-2 of the project to the intersection, the intersection will degrade to LOS F. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to and unacceptable level (LOS E or F). Thus, per the PFE Units 1-2 of the project is considered to have a significant direct impact at the Otay Mesa Road (Old Otay Mesa Road)/Enrico Fermi Drive intersection. See Section IX for a discussion on how the developer will mitigate its significant direct impacts.

The Otay Mesa Road (Old Otay Mesa Road)/Alta Road intersection currently operates at LOS D during the AM peak hour and LOS C during the PM peak hour overall. With the addition of 1,692 AM peak hour trips (1,354 to the eastbound approach) from Units 1-2 of the project to the intersection, the eastbound approach and overall intersection will to degrade to LOS F. With the addition of 1,813 PM peak hour trips (723 to the westbound approach) from Units 1-2 of the project all approaches and the overall intersection will degrade to LOS F. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to and unacceptable level (LOS E or F). Thus, per the PFE Units 1-2 of the project is considered to have a significant direct impact at the Otay Mesa Road (Old Otay Mesa Road)/Alta Road intersection. See Section IX for a discussion on how the developer will mitigate its significant direct impacts.

Existing + Units 1-2 – ILV Analysis

Table 19 summarizes the existing without and with project conditions intersection ILV analysis. As shown in Table 19, with the exception of the Otay Mesa Road/Heritage Road, Otay Mesa Road/Cactus Road, Otay Mesa Road/Britannia Boulevard and Otay Mesa Road/SR-905 Connector all intersections operate under stable flow during the AM and PM peak hours under existing without and with project conditions. A copy of the ILV worksheets can be found in Appendix F.

The Otay Mesa Road/Heritage Road currently operates under stable flow during both the AM and PM peak hours. With addition to Units 1-2 of the project the Otay Mesa Road/Heritage Road intersection operates under unstable flow during both the AM and PM peak hours.

The Otay Mesa Road/Cactus Road currently operates under stable flow during both the AM and PM peak hours. With addition to Units 1-2 of the project the Otay Mesa Road/Heritage Road intersection operates under unstable flow during both the AM and PM peak hours.

The Otay Mesa Road/Britannia Boulevard currently operates under stable flow during both the AM and PM peak hours. With addition to Units 1-2 of the project the Otay Mesa Road/Heritage Road intersection operates under stable flow during the AM peak hour and unstable flow during the PM peak hour.

The Otay Mesa Road/SR-905 Connector currently operates under stable flow during both the AM and PM peak hours. With addition to Units 1-2 of the project the Otay Mesa Road/ SR-905 Connector intersection operates under unstable flow during both the AM and PM peak hours.

Table 19 – Existing + Units 1-2 ILV Analysis								
Intersection	Existing				Existing + Units 1-2			
	AM Peak Hour		PM Peak Hour		AM Peak		PM Peak	
	ILV/Hr	Operating Condition	ILV/Hr	Operating Condition	ILV/Hr	Operating Condition	ILV/Hr	Operating Condition
Otay Mesa Rd (E-W) @ Heritage Rd (N-S)	1,115	Stable Flow	1,049	Stable Flow	1,414	Unstable Flow	1,313	Unstable Flow
Otay Mesa Rd (E-W) @ Cactus Rd (N-S)	1,129	Stable Flow	1,055	Stable Flow	1,395	Unstable Flow	1,259	Unstable Flow
Otay Mesa Rd (E-W) @ Britannia Blvd (N-S)	708	Stable Flow	936	Stable Flow	1,091	Stable Flow	1,211	Unstable Flow
Otay Mesa Rd (E-W) @ La Media Rd (N-S)	740	Stable Flow	924	Stable Flow	1,047	Stable Flow	1,196	Stable Flow
Otay Mesa Rd (E-W) @ Piper Ranch Rd (N-S)	696	Stable Flow	766	Stable Flow	1,168	Stable Flow	955	Stable Flow
Otay Mesa Rd (E-W) @ SR-125 SB (N-S)	701	Stable Flow	677	Stable Flow	887	Stable Flow	895	Stable Flow
Otay Mesa Rd (E-W) @ SR-125 NB (N-S)	417	Stable Flow	754	Stable Flow	956	Stable Flow	1,198	Stable Flow
Otay Mesa Rd (E-W) @ SR-905 Connector (N-S)	700	Stable Flow	911	Stable Flow	1,310	Unstable Flow	1,477	Unstable Flow
Siempre Viva (E-W) @ SR-905 SB to EB Siempre Viva (N-S)	363	Stable Flow	463	Stable Flow	372	Stable Flow	561	Stable Flow
Siempre Viva (E-W) @ SR-905 NB Ramp (N-S)	372	Stable Flow	483	Stable Flow	372	Stable Flow	508	Stable Flow
ILV/Hour = Intersecting Lane Vehicles Per Hour; <1,200 ILV/Hour = Stable Flow; 1,200 - 1,500 ILV/Hour = Unstable Flow; 1,500 ILV/Hour = Capacity, Stop and Go Operation E-W = East-West Roadway; N-S = North-South Roadway								

EXISTING PLUS PROJECT UNITS 1-3 LEVEL OF SERVICE CONDITIONS

This section analyzes the existing conditions plus Units 1-3 of the proposed project. Figure 14 illustrates the existing plus Units 1-3 project traffic volumes.

Existing + Units 1-3 – Roadway Segments

Table 20 summarizes the daily roadway segment level of service analysis under the existing without and with Units 1-3 project conditions. As shown in Table 20, the following roadway segments operate at an unacceptable LOS E or F under existing plus Units 1-3 project conditions:

- Interim SR-905 (Otay Mesa Road) between Heritage Road and Britannia Boulevard (LOS F without and with Units 1-3 of the project);
- Interim SR-905 (Otay Mesa Road) between Britannia Boulevard and Piper Ranch Road (LOS E without the project and LOS F with Units 1-3 of the project);
- Interim SR-905 (Otay Mesa Road) between Piper Ranch Road and the SR-125 (LOS C without the project and LOS E with Units 1-3 of the project);
- Otay Mesa Road (Old Otay Mesa Road) between Sanyo Avenue and Enrico Fermi Drive (LOS D without the project and LOS F with Units 1-3 of the project);
- Otay Mesa Road (Old Otay Mesa Road) between Enrico Fermi Drive and Alta Road (LOS C without the project and LOS F with Units 1-3 of the project);

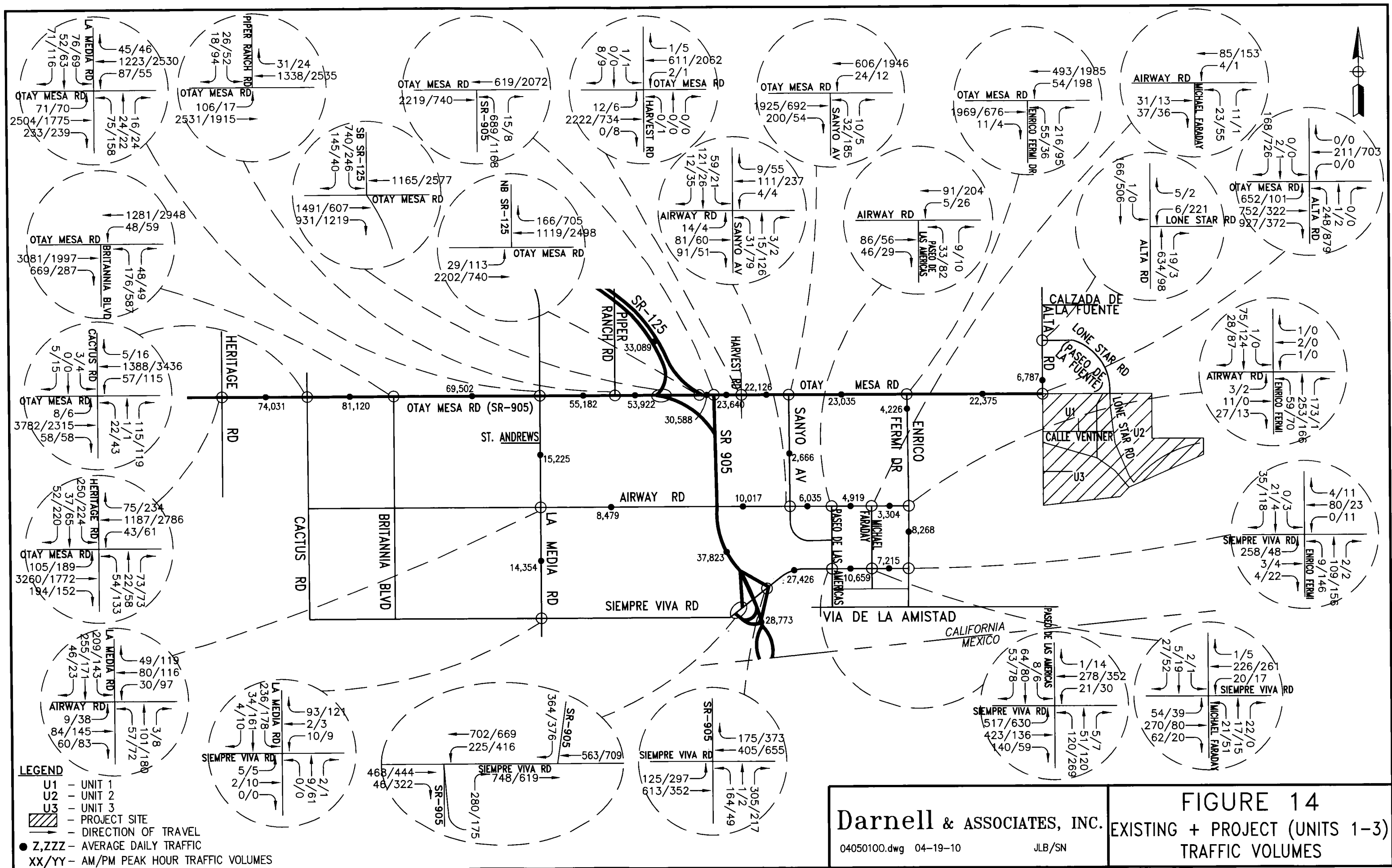


Table 20 – Existing + Units 1-3 Roadway Segment Daily LOS Summary

Roadway Segment	Jurisdiction	Class	Capacity (LOS E)	Existing 2008			Existing + Units 1-3						
				ADT	V/C	LOS	Proj. Tr	ADT	V/C	LOS	ΔV/C	Sig	
Interim SR-905 (Otay Mesa Rd) Heritage Rd to Cactus Rd Cactus Rd to Britannia Blvd Britannia Blvd to La Media Rd La Media Rd to Piper Ranch Rd Piper Ranch Rd to SR-125	City/Caltrans	6P	60,000	64,299	1.07	F	9,732	74,031	1.23	F	0.16	Yes ^(d)	
	City/Caltrans	6P	60,000	71,080	1.19	F	10,040	81,120	1.35	F	0.17	Yes ^(d)	
	City/Caltrans	6P	60,000	58,999	0.98	E	10,503	69,502	1.16	F	0.18	Yes ^(d)	
	City/Caltrans	5M	45,000	44,523	0.99	E	10,659	55,182	1.23	F	0.24	Yes ^(d)	
	County/City/Caltrans	6P	57,000	43,109	0.73	C	10,813	53,922	0.95	E	0.19	Yes ^(d)	
	Otay Mesa Rd (Old Otay Mesa Rd) SR-125 to Interim SR-905 Connector Interim SR-905 Connector to Harvest Rd Harvest Rd to Sanyo Av Sanyo Av to Enrico Fermi Dr Enrico Fermi Dr to Alta Rd	5M(a)	47,000	16,686	0.36	A	13,902	30,588	0.65	B	0.29	No	
5M(a)		47,000	9,738	0.21	A	13,902	23,640	0.50	B	0.29	No		
4M		37,000	8,224	0.22	A	13,902	22,126	0.60	B	0.38	No		
LC		16,200	9,133	0.56	D	13,902	23,035	1.42	F	0.86	Yes		
LC		16,200	6,928	0.43	C	15,447	22,375	1.38	F	0.95	Yes		
Airway Road La Media Rd to SR-905 SR-905 to Sanyo Av (c) Sanyo Av to Paseo de las Americas Paseo de las Americas to Michael Faraday Dr Michael Faraday Dr to Enrico Fermi Dr Enrico Fermi Dr to Airway Pl		2C	15,000	8,093	0.54	C	386	8,479	0.57	C	0.03	No	
	2C	10,000	9,631	0.96	E	386	10,017	1.00	F	0.04	Yes		
	4M	40,000	5,649	0.14	C	386	6,035	0.15	C	0.01	No		
	4M	37,000	4,513	0.12	C	386	4,919	0.13	C	0.01	No		
	LC	16,200	2,918	0.18	B	386	3,304	0.20	B	0.01	No		
	4C	34,200	1,160	0.03	A	0	1,160	0.03	A	0.00	No		
Siempre Viva Road SR-905 NB to Paseo de las Americas Paseo de las Americas to Michael Faraday Dr Michael Faraday Dr to Enrico Fermi Dr Enrico Fermi Dr to Airway Pl	City	6P	60,000	26,653	0.44	B	773	27,426	0.46	B	0.02	No	
	City	4C	30,000	9,886	0.33	A	773	10,659	0.36	B	0.03	No	
	City	4C	30,000	6,442	0.22	A	773	7,215	0.24	A	0.03	No	
	County	LC	16,200	830	0.05	A	0	830	0.05	A	0.00	No	
	La Media Road Otay Mesa Rd to St. Andrews	City	4C	30,000	15,225	0.51	C	0	15,225	0.51	C	0.00	No
		SR-125 North of Otay Mesa Rd Existing SR-905	4-Fwy	(b)	30,000	0.33	A	3,089	33,089	0.36	A	0.03	No
City/Caltrans	4M		40,000	37,823	0.95	E	0	37,823	0.95	E	0.00	No	
Otay Mesa Rd to Siempre Viva Rd South of Siempre Viva Rd Sanyo Avenue Otay Mesa Rd to Airway Rd Enrico Fermi Drive	City/Caltrans	4-Fwy	(b)	28,000	0.32	A	773	28,773	0.33	A	0.01	No	
	City	4C	30,000	2,666	0.09	A	0	2,666	0.09	A	0.00	No	
	County	TC	19,000	2,681	0.14	A	1,545	4,226	0.22	B	0.08	No	
Otay Mesa Rd to Airway Rd Airway Rd to Siempre Viva Rd	City	4M	40,000	7,110	0.19	A	1,158	8,268	0.21	A	0.03	No	

City = Capacity of city segments is based on the upper limits of LOS E per the City of San Diego; County = Capacity of county segments is based on the upper limits of LOS E per the County of San Diego. SBX = South Bay Expressway; Bold = Jurisdiction which capacity is based on; ADT = Average Daily Traffic; LOS = Level of Service; V/C = Volume-to LOS E Capacity Ratio; Fwy = Freeway; 6P = 6-Lane Prime Arterial; 5M = 5-Lane Major Arterial; 4M = 4-Lane Major Arterial; 4C = 4-Lane Collector; 2C = 2-Lane Collector with no fronting property; LC = Light Collector; TC = Town Collector

(a) Additional lanes may be provided to accommodate turning movements and freeway access; hence the roadway capacity was assumed to be 47,000 ADT at LOS E (half way between a 4M & 6P).

(b) Capacity based on Caltrans District 11 & HCM procedures. See Appendix L for LOS calculations.

(c) Field checks conducted in January 2010 found that this segment of Airway Road was currently closed to traffic.

(d) Table 21 of the Arterial Roadway Segment analysis shows that the roadway segment does not have a significant impact.

- Airway Road between SR-905 and Sanyo Avenue (LOS E without the project and LOS F with Units 1-3 of the project – Airway Road is presently closed by Caltrans); and
- State Route 905 between Otay Mesa Road and Siempre Viva Road (LOS E without and with Units 1-3 of the project).

The segments of Interim SR-905 (Otay Mesa Road) between Heritage Road and Britannia Boulevard operate at an unacceptable LOS F under existing without and with Units 1-3 of the proposed project conditions. With the addition of between 9,732 and 10,040 ADT from Units 1-3 of the project, the volume-to-capacity (v/c) ratio will be increased by a range of 0.16 to 0.17 and the level of service on these segments of Interim SR-905 (Otay Mesa Road) will continue to operate at LOS F. The increase in v/c exceeds the 0.01 allowed per the City of San Diego's thresholds of significance for a roadway segment operating at LOS F, thus, based on average daily conditions Units 1-3 of the project has a significant direct impact on these segments of Interim SR-905 (Otay Mesa Road). However, based on the arterial roadway segment analysis the segments of Interim SR-905 (Otay Mesa Road) between Heritage Road and Britannia Boulevard operate at an acceptable level of service and the project is not considered to have a significant direct impact. See the arterial roadway segment section for more details.

The segments of Interim SR-905 (Otay Mesa Road) from Britannia Boulevard to Piper Ranch Road operate at an unacceptable LOS E under existing conditions. With the addition of between 10,503 and 10,659 ADT from Units 1-3 of the project, the v/c ratio will be increased by a range of 0.18 to 0.24 and the level of service on these segments of Interim SR-905 (Otay Mesa Road) will degrade to LOS F. The increase in v/c exceeds the 0.01 allowed per the City of San Diego's thresholds of significance for a roadway segment operating at LOS F, thus, based on average daily conditions Units 1-3 of the project has a significant direct impact on these segments of Interim SR-905 (Otay Mesa Road). However, based on the arterial roadway segment analysis the segments of Interim SR-905 (Otay Mesa Road) between Britannia Boulevard and Piper Ranch Road operate at an acceptable level of service and the project is not considered to have a significant direct impact. See the arterial roadway segment section for more details.

The segment of Interim SR-905 (Otay Mesa Road) between Piper Ranch Road and SR-125 operates at an acceptable LOS C under existing conditions. With the addition of 10,813 ADT from Units 1-3 of the project, the v/c ratio will be increased by 0.19 and the level of service on this segment of Interim SR-905 (Otay Mesa Road) will degrade to LOS E. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F). Since Units 1-3 of the project lowers the existing level of service from LOS C to LOS E, based on average daily conditions, Units 1-3 of the project is considered to have a significant direct impact. However, based on the arterial roadway segment analysis the segment of Interim SR-905 (Otay Mesa Road) between Piper Ranch Road and the SR-125 operates at an acceptable level of service and the project is not considered to have a significant direct impact. See the arterial roadway segment section for more details.

The segment of Otay Mesa Road (Old Otay Mesa Road) between Sanyo Avenue and Enrico Fermi Drive operates at LOS D under existing conditions. With the addition of 13,902 ADT from Units 1-3 of the project, this segment of Otay Mesa Road (Old Otay Mesa Road) will operate at LOS F. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F). Since Units 1-3 of the project lowers the existing level of service from LOS D to LOS F, based on average daily conditions, Units 1-3 of the project is considered to have a significant direct impact on the segment of Otay Mesa Road (Old Otay Mesa Road) between Sanyo Avenue and Enrico Fermi Drive. See Section IX for a discussion on how the developer will mitigate its significant direct impacts.

The segment of Otay Mesa Road (Old Otay Mesa Road) between Enrico Fermi Drive and Alta Road operates at LOS C under existing conditions. With the addition of 15,447 ADT from Units 1-3 of the project, this segment of Otay Mesa Road (Old Otay Mesa Road) will operate at LOS F. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F). Since Units 1-3 of the project lowers the existing level of service from

LOS C to LOS F, based on average daily conditions, Units 1-3 of the project is considered to have a significant direct impact on the segment of Otay Mesa Road (Old Otay Mesa Road) between Enrico Fermi Drive to Alta Road. See Section IX for a discussion on how the developer will mitigate its significant direct impacts.

Although based on February 2008 count data, the segment of Airway Road between SR-905 and Sanyo Avenue operates at LOS E under existing conditions. This segment of Airway Road; however, is currently closed to traffic for the construction of the structures at the SR-905/Airway Road intersection. By the time Units 1-3 of the proposed project comes on line this segment of Airway Road is anticipated to be re-opened, thus project traffic is added to the segment of Airway Road between the SR-905 and Sanyo Avenue. With the addition of 386 ADT from Units 1-3 of the proposed project the v/c ratio will be increased by 0.04 and the level of service on this segment of Airway Road will operate at LOS F. The increase in v/c exceeds the 0.01 allowed per the City of San Diego's thresholds of significance for a roadway segment operating at LOS F, thus, based on average daily conditions Units 1-3 of the project has a significant direct impact on the segment of Airway Road between the SR-905 and Sanyo Avenue. See Section IX for a discussion on how the developer will mitigate its significant direct impacts.

The segment of SR-905 between Otay Mesa Road and Siempre Viva Road operates at LOS E under existing without and with Units 1-3 of the project conditions. Since the project is not adding any traffic to this segment the v/c ratio will not be increased with the addition of the project; thus, Units 1-3 of the proposed project is not considered to have a significant impact.

All other roadway segments continue to operate at LOS D or better under existing plus Units 1-3 of the proposed project conditions.

Existing + Units 1-3 – Arterial Roadway Segments

A review of the 24 hour counts sheets for Otay Mesa Road, found that the traffic flow is rather constant between the hours of 7:00am to 6:00 pm, compared to most 5-lane and 6-lane roadways which have high peak hour flows in the morning and afternoon. Further it should be noted that the Otay Mesa Port-of-Entry is open 24 hours a day with long lines crossing the border. This results in the spread of vehicles through the day resulting in increased daily traffic volumes. Since level of service based on daily volumes assumes significant increases in traffic counts during the peak hour periods, daily capacity analysis is not particularly accurate for Otay Mesa Road. Therefore, in addition to evaluating the roadway based on daily capacity it was also analyzed based on the Highway Capacity Manual's (HCM) Arterial Segment Methodology utilizing the Synchro software. Since the arterial segment analysis determines level of service based on the average travel speeds that occur on the roadway it provides a more accurate representation of the travel patterns and levels of service for Otay Mesa Road. The results of the analysis are summarized in Table 21.

Based on daily roadway segment capacities, the project is part of significant impact to the roadway segments of Interim SR-905 (Otay Mesa Road); however, as shown in the arterial roadway segment analysis in Table 21 the failing segments of the Interim SR-905 (Otay Mesa Road) operate under acceptable level of service conditions during both the peak hours. A copy of the Synchro worksheets can be found in Appendix D and G.

Table 21 – Existing + Units 1-3 Arterial LOS Summary

AM Peak Hour									
Intersection	Jurisdiction	Direction of Travel	Existing (A)		Existing + Units 1-3 (B)		(B) – (A)		
			Speed (mph)	LOS	Speed (mph)	LOS	Δ Speed	Sig. Impact	
Interim SR-905 - Heritage Rd. to Cactus Rd.	City/Caltrans	EB WB	35.3 31.2	A B	22.6 30.2	C B	(12.7) (1.0)	No	
Interim SR-905 - Cactus Rd. to Britannia Blvd.	City/Caltrans	EB WB	32.1 38.9	B A	17.8 39.0	D A	(14.3) 0.1	No	
Interim SR-905 - Britannia Blvd. to La Media Rd.	City/Caltrans	EB WB	42.6 43.6	A A	40.5 43.3	A A	(2.1) (0.3)	No	
Interim SR-905 - La Media Rd. to Piper Ranch Rd.	City/Caltrans/ County	EB WB	38.5 33.0	A B	29.4 32.3	B B	(9.1) (0.7)	No	
Interim SR-905 - Piper Ranch Rd to SR125	City/Caltrans/ County	EB WB	34.0 29.5	B B	22.0 29.1	C B	(12.0) (0.4)	No	
PM Peak Hour									
Intersection	Jurisdiction	Direction of Travel	Existing (A)		Existing + Units 1-3 (B)		(B) – (A)		
			Speed (mph)	LOS	Speed (mph)	LOS	Δ Speed	Sig. Impact	
Interim SR-905 - Heritage Rd. to Cactus Rd.	City/Caltrans	EB WB	29.3 24.4	B C	30.8 20.4	B D	1.5 (4.0)	No	
Interim SR-905 - Cactus Rd. to Britannia Blvd.	City/Caltrans	EB WB	36.1 38.2	A A	33.3 34.5	B B	(2.8) (3.7)	No	
Interim SR-905 - Britannia Blvd. to La Media Rd.	City/Caltrans	EB WB	35.4 39.4	A A	34.0 35.2	B A	(1.4) (4.2)	No	
Interim SR-905 - La Media Rd. to Piper Ranch Rd.	City/Caltrans/ County	EB WB	38.1 28.3	A B	36.7 22.4	A C	(1.4) (5.9)	No	
Interim SR-905 - Piper Ranch Rd to SR125	City/Caltrans/ County	EB WB	35.8 34.2	B B	32.0 30.9	B B	(3.8) (3.3)	No	

LOS=Level of Service; Speed is measured in miles per hour (mph); sig=signalized; Δ Speed = Increase (decrease) in speed;
 SBX = South Bay Expressway, Occasionally adding traffic to a critical movement optimizes the segment resulting in increase in speed.

Existing + Units 1-3 – Intersections

Existing + Units 1-3 – Synchro Analysis

Table 22 summarizes the existing plus Units 1-3 project conditions intersection level of service summary during the AM and PM peak hours. (A copy of the Synchro worksheets can be found in Appendix D and G.) As shown in Table 22, the following intersections operates at LOS E or F during at least one of the peak hours under existing plus Units 1-3 project conditions:

- Interim SR-905 (Otay Mesa Road)/Heritage Road (LOS C without project and LOS E during the AM peak hour with Units 1-3 of the project);
- Otay Mesa Road/Interim SR-905 Connector (LOS C or better without project and LOS F with Units 1-3 of the project);
- Otay Mesa Road (Old Otay Mesa Road)/Sanyo Avenue (LOS B without project and LOS F during the PM peak hour with Units 1-3 of the project);
- Otay Mesa Road (Old Otay Mesa Road)/Enrico Fermi Drive (LOS B or better without project and LOS F with Units 1-3 of the project); and
- Otay Mesa Road (Old Otay Mesa Road)/Alta Road (Total intersection operates at LOS B or better without the project and LOS F during both peak hours with Units 1-3 of the project).

The Interim SR-905 (Otay Mesa Road)/Heritage Road intersection operates at LOS C during the AM peak hour under existing conditions. With the addition of 1,319 AM peak hour trips from Units 1-3 of the project the AM peak hour delay will be increased by 34.4 seconds degrading the existing LOS to LOS E. The increase in delay exceeds the two (2) seconds allowed per the City of San Diego's thresholds of significance for an intersection operating at LOS E, thus Units 1-3 of the project has a significant direct impact on the Interim SR-905 (Otay Mesa Road)/Heritage Road intersection. See Section IX for a discussion on how the developer will mitigate its significant direct impact.

The Otay Mesa Road/Interim SR-905 Connector intersection operates at LOS B during the AM peak hour and LOS C during the PM peak hour under existing conditions. With the addition of 1,914 AM peak hour trips from Units 1-3 of the project, the AM peak hour delay will be increased by 58.7 seconds degrading the existing LOS to LOS E. With the addition of 2,041 PM peak hour trips from Units 1-3 of the project, the PM peak hour delay will be increased by 86.2 seconds degrading the existing LOS to LOS F. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F). Since the proposed project lowers the existing level of service from and acceptable LOS C or better to an unacceptable LOS E during the AM peak hour and LOS F during the PM peak hour, Units 1-3 of the proposed project is considered to have a significant direct impact at the Otay Mesa Road/Interim SR-905 Connector intersection. See Section IX for a discussion on how the developer will mitigate its significant direct impact.

The Otay Mesa Road (Old Otay Mesa Road)/Sanyo Avenue intersection operates at LOS A during the AM peak hour and LOS B during the PM peak hour under existing conditions. With the addition of 2,014 PM peak hour trips from Units 1-3 of the project to the intersection, the intersection will degrade to LOS F. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F). Thus, per the PFE Units 1-3 of the project is considered to have a significant direct impact at the Otay Mesa Road (Old Otay Mesa Road)/Sanyo Avenue intersection. See Section IX for a discussion on how the developer will mitigate its significant direct impacts.

Table 22 - Existing + Units 1-3 Intersection Level of Service Summary

Intersections	Jurisdiction	Traffic Control	Critical Move	Existing				Existing + Units 1-3									
				AM Peak		PM Peak		AM Peak					PM Peak				
				Delay	LOS	Delay	LOS	Delay	LOS	Proj. Trips	Δ Delay	Sig.	Delay	LOS	Proj. Trips	Δ Delay	Sig.
Otay Mesa Rd (E-W) @ Heritage Rd (N-S)	City/Caltrans	Sig.	Int	30.1	C	29.2	C	64.5	E	1,319	34.4	Yes	41.4	D	1,405	12.2	No
Otay Mesa Rd (E-W) @ Cactus Rd (N-S)	City/Caltrans	Sig.	Int	8.9	A	11.5	B	29.1	C	1,361	20.2	No	12.9	B	1,451	1.4	No
Otay Mesa Rd (E-W) @ Britannia Blvd (N-S)	City/Caltrans	Sig.	Int	10.3	B	18.8	B	38.0	D	1,426	27.7	No	24.2	C	1,520	5.4	No
Otay Mesa Rd (E-W) @ La Media Rd (N-S)	City/Caltrans	Sig.	Int	14.1	B	27.0	C	14.0	B	1,468	(0.1)	No	34.8	C	1,565	7.8	No
Otay Mesa Rd (E-W)@ Piper Ranch Rd (N-S)	County/City/Caltrans	Sig.	Int	6.1	A	3.6	A	13.7	B	1,488	7.6	No	4.6	A	1,586	1.0	No
Otay Mesa Rd (E-W) @ SR-125 SB (N-S)	County/City/SBX	Sig.	Int	11.2	B	2.5	A	14.0	B	1,824	2.8	No	4.3	A	1,727	1.8	No
Otay Mesa Rd (E-W) @ SR-125 NB (N-S)	County/City/SBX	Sig.	Int	0.9	A	5.6	A	6.6	A	1,913	5.7	No	15.5	B	2,043	9.9	No
Otay Mesa Rd (E-W) @ SR-905 (N-S)	County/City/SBX	Sig.	Int	16.1	B	21.1	C		E	1,914	58.7	Yes	107.3	F	2,041	86.2	Yes
Otay Mesa Rd (E-W) @ Sanyo Av (N-S)	County/City	Sig.	Int	4.1	A	12.6	B	8.6	A	1,914	4.5	No	213.3	F	2,041	200.7	Yes
Otay Mesa Rd (E-W) @ Enrico Fermi Dr (N-S)	County	Sig.	Int	10.4	B	9.4	A		F	2,127	273.1	Yes	137.6	F	2,268	128.2	Yes
Otay Mesa Rd (E-W) @ Alta Rd (N-S)	County	AWSC	EB	32.5	D	9.8	A	1447.8	F	1,677	1415.3		645.4	F	692	635.6	
			WB	0.0	A	0.0	A	14.9	B	211	14.9		549.4	F	703	549.4	
			NB	9.3	A	8.2	A	18.2	C	239	8.9	Yes	815.3	F	873	807.1	Yes
			SB	9.8	A	18.3	C	13.3	B	0	3.5		518.9	F	0	500.6	
			Int	27.6	D	17.2	C	1142.4	F	2,127	1114.8		642.1	F	2,268	624.9	
Airway Rd (E-W) @ La Media Rd (N-S)	City	AWSC	EB	11.1	B	14.5	B	11.3	B	0	0.2		15.7	C	0	1.2	
			WB	10.9	B	13.9	B	11.5	B	23	0.6		18.4	B	78	4.5	
			NB	11.4	B	15.4	C	11.6	B	0	0.2	No	16.9	C	0	1.5	No
			SB	13.3	B	12.2	B	13.7	B	0	0.4		13.2	B	0	1.0	
			Int	12.3	B	13.9	B	12.6	B	23	0.3		16.0	C	78	2.1	

LOS=Level of Service; Delay is measured in seconds/vehicle; sig=signalized; AWSC=All Way Stop Controlled; TWSC = Two-Way Stop-Controlled; OWSC=One Way Stop Controlled; Int = Intersection; NB = Northbound Approach; SB = Southbound Approach; EB = Eastbound Approach; WB = Westbound Approach; SBX = South Bay Expressway; E-W = East-West Roadway; N-S = North-South Roadway; **Bold** = Jurisdiction which significance criteria is based on Δ Delay = Increase (decrease) in delay; Occasionally adding traffic to a critical movement optimizes the intersection resulting in a decrease in delay

LOS=Level of Service; Delay is measured in seconds/vehicle; sig=signalized; AWSC=All Way Stop Controlled; TWSC = Two-Way Stop-Controlled; OWSC=One Way Stop Controlled; Int = Intersection; NB = Northbound Approach; SB = Southbound Approach; EB = Eastbound Approach; WB = Westbound Approach; SBX = South Bay Expressway; E-W = East-West Roadway; N-S = North-South Roadway; Bold = Jurisdiction which significance criteria is based on Δ Delay = Increase (decrease) in delay; Occasionally adding traffic to a critical movement optimizes the intersection resulting in a decrease in delay

Table 22 (Continued) – Existing + Units 1-3 Intersection Level of Service Summary																	
Intersections	Jurisdiction	Traffic Control	Critical Move	Existing				Existing + Units 1-3									
				AM Peak		PM Peak		AM Peak				PM Peak					
				Delay	LOS	Delay	LOS	Delay	LOS	Proj. Trips	Δ Delay	Sig.	Delay	LOS	Proj. Trips	Δ Delay	Sig.
Airway Rd (E-W) @ Sanyo Av (N-S)	City	AWSC	EB	10.1	B	9.9	A	10.2	B	0	0.1	No	10.2	B	0	0.3	No
			WB	8.1	A	9.1	A	8.4	A	23	0.3		10.9	B	78	1.8	
			NB	8.0	A	9.2	A	8.1	A	0	0.1		9.6	A	0	0.4	
			SB	9.6	A	8.0	A	9.7	A	0	0.1		8.4	A	0	0.4	
			Int	9.3	A	9.1	A	9.4	A	23	0.1		10.1	B	78	1.0	
Airway Rd (E-W) @ Paseo De Las Americas (N-S)	County/City	OWSC	NB	9.7	A	10.6	B	9.8	A	0	0.1	No	11.6	B	0	1.0	No
Airway Rd (E-W) @ Michael Faraday (N-S)	County/City	OWSC	NB	9.6	A	9.6	A	9.6	A	0	0.0	No	10.1	A	0	0.5	No
Airway Rd (E-W) @ Enrico Fermi Dr (N-S)	County/City	Sig.	Int	6.6	A	13.0	B	6.5	A	214	(0.1)	No	7.5	A	225	(5.5)	No
Siempre Viva Rd (E-W) @ La Media Rd (N-S)	City	AWSC	EB	8.0	A	8.4	A	8.0	A	0	0.0	No	8.6	A	0	0.2	No
			WB	7.8	A	8.5	A	7.9	A	0	0.1		8.9	A	0	0.4	
			NB	7.6	A	8.4	A	7.6	A	0	0.0		8.6	A	0	0.2	
			SB	9.8	A	11.0	B	10.2	B	23	0.4		13.2	B	78	2.2	
			Int	9.2	A	9.9	A	9.5	A	23	0.3		11.5	B	78	1.6	
Siempre Viva Rd (E-W) @ SR-905 SB off to Siempre Viva EB (N-S)	Caltrans	Sig.	Int	7.0	A	8.5	A	7.5	A	23	0.5	No	9.3	A	78	0.8	No
Siempre Viva Rd (E-W) @ SR-905 SB off to Siempre Viva WB (N-S)	Caltrans	OWSC	SB	14.3	B	13.3	B	14.6	B	0	0.3	No	13.2	B	0	(0.1)	No
Siempre Viva Rd (E-W) @ SR-905 NB Ramp (N-S)	Caltrans	Sig.	Int	10.8	B	11.0	B	10.5	B	107	(0.3)	No	10.9	B	112	(0.1)	No
Siempre Viva Rd (E-W) @ Paseo De Las Americas (N-S)	City	Sig.	Int	24.7	C	40.0	D	24.3	C	107	(0.4)	No	41.6	D	112	1.6	No
Siempre Viva Rd (E-W) @ Michael Faraday (N-S)	City	TWSC	NB	14.5	B	13.2	B	16.6	C	0	2.1	No	14.8	B	0	1.6	No
Siempre Viva Rd (E-W) @ Enrico Fermi Dr (N-S)	County/City	Sig.	Int	12.6	B	13.7	B	12.7	B	191	0.1	No	13.7	B	0	1.4	No
Alta Rd (N-S) @ Paseo De La Fuente (E-W)	County	Sig.	Int	2.7	A	12.6	B	2.2	A	0	(0.5)	No	12.6	A	0	0.0	No
LOS=Level of Service; Delay is measured in seconds/vehicle; sig=signalized; AWSC=All Way Stop Controlled; TWSC = Two-Way Stop-Controlled; OWSC=One Way Stop Controlled; Int = Intersection; NB = Northbound Approach; SB = Southbound Approach; EB = Eastbound Approach; WB = Westbound Approach; SBX = South Bay Expressway; E-W = East-West Roadway; N-S = North-South Roadway; Bold = Jurisdiction which significance criteria is based on Δ Delay = Increase (decrease) in delay; Occasionally adding traffic to a critical movement optimizes the intersection resulting in a decrease in delay																	

LOS=Level of Service; Delay is measured in seconds/vehicle; sig=signalized; AWSC=All Way Stop Controlled; TWSC = Two-Way Stop Controlled; OWSC=One Way Stop Controlled; Int = Intersection; NB = Northbound Approach; SB = Southbound Approach; EB = Eastbound Approach; WB = Westbound Approach;

SBX = South Bay Expressway; E-W = East-West Roadway; N-S = North-South Roadway; **Bold** = Jurisdiction which significance criteria is based on

Δ Delay = Increase (decrease) in delay; Occasionally adding traffic to a critical movement optimizes the intersection resulting in a decrease in delay

The Otay Mesa Road (Old Otay Mesa Road)/Enrico Fermi Drive intersection operates at LOS B during the AM peak hour and LOS A during the PM peak hour under existing conditions. With the addition of 2,127 AM peak hour trips and 2,268 PM peak hour trips from Units 1-3 of the project, the AM peak hour delay will be increased by 273.1 seconds and the PM peak hour delay will be increased by 128.2 seconds degrading the existing LOS to LOS F during both peak hours. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F). Since the proposed project lowers the existing level of service from an acceptable LOS B or better to an unacceptable LOS F, Units 1-3 of the proposed project is considered to have a significant direct impact at the Otay Mesa Road(Old Otay Mesa Road)/Enrico Fermi Drive intersection. See Section IX for a discussion on how the developer will mitigate its significant direct impact.

The Otay Mesa Road (Old Otay Mesa Road)/Alta Road intersection currently operates at LOS D during the AM peak hour and LOS C during the PM peak hour overall. With the addition of 2,127 AM peak hour trips (1,677 to the eastbound approach) from Units 1-3 of the project to the intersection, the eastbound approach and overall intersection will to degrade to LOS F. With the addition of 2,268 PM peak hour trips (873 to the northbound approach) from Units 1-3 of the project all approaches and the overall intersection will degrade to LOS F. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to and unacceptable level (LOS E or F). Thus, per the PFE Units 1-3 of the project is considered to have a significant direct impact at the Otay Mesa Road (Old Otay Mesa Road)/Alta Road intersection. See Section IX for a discussion on how the developer will mitigate its significant direct impacts.

All other intersections continue to operate at LOS D or better under existing plus Units 1-3 project conditions.

Existing + Units 1-3 – ILV Analysis

Table 23 summarizes the existing without and with project conditions intersection ILV analysis. As shown in Table 23, the Otay Mesa Road/SR-125 SB Ramp, Siempre Viva Road/SR-905 Southbound to Eastbound Siempre Viva Road and Siempre Viva Road/SR-905 Northbound Ramp operates under stable flow during the AM and PM peak hours under existing without and with project conditions. All other intersections operate under unstable flow or at over capacity. A copy of the ILV worksheets can be found in Appendix G.

The Otay Mesa Road/Heritage Road and Otay Mesa Road/Cactus Road currently operate under stable flow during both the AM and PM peak hours. With addition to Units 1-3 of the project the Otay Mesa Road/Heritage Road and Otay Mesa Road/Cactus Road intersections operate under unstable flow during both the AM and PM peak hours.

The Otay Mesa Road/Britannia Boulevard, Otay Mesa Road/La Media Road and Otay Mesa Road/SR-125 Northbound Ramp currently operates under stable flow during both the AM and PM peak hours. With addition to Units 1-3 of the project the Otay Mesa Road/Heritage Road, Otay Mesa Road/La Media Road and Otay Mesa Road/SR-125 Northbound Ramp intersections operate under stable flow during the AM peak hour and unstable flow during the PM peak hour.

The Otay Mesa Road/Piper Ranch Road currently operates under stable flow during both the AM and PM peak hours. With addition to Units 1-3 of the project the Otay Mesa Road/Piper Ranch Road intersection operate under unstable flow during both the AM peak hour and stable flow during the PM peak hour.

The Otay Mesa Road/SR-905 Connector currently operates under stable flow during both the AM and PM peak hours. With addition to Units 1-3 of the project the Otay Mesa Road/SR-905 Connector intersection operates under unstable flow during both the AM peak hour and at over capacity during the PM peak hour.

Table 23 – Existing + Units 1-3 ILV Analysis								
Intersection	Existing				Existing + Units 1-3			
	AM Peak Hour		PM Peak Hour		AM Peak		PM Peak	
	ILV/Hr	Operating Condition	ILV/Hr	Operating Condition	ILV/Hr	Operating Condition	ILV/Hr	Operating Condition
Otay Mesa Rd (E-W) @ Heritage Rd (N-S)	1,115	Stable Flow	1,049	Stable Flow	1,485	Unstable Flow	1,397	Unstable Flow
Otay Mesa Rd (E-W) @ Cactus Rd (N-S)	1,129	Stable Flow	1,055	Stable Flow	1,424	Unstable Flow	1,353	Unstable Flow
Otay Mesa Rd (E-W) @ Britannia Blvd (N-S)	708	Stable Flow	936	Stable Flow	1,163	Stable Flow	1,277	Unstable Flow
Otay Mesa Rd (E-W) @ La Media Rd (N-S)	740	Stable Flow	924	Stable Flow	1,120	Stable Flow	1,266	Unstable Flow
Otay Mesa Rd (E-W) @ Piper Ranch Rd (N-S)	696	Stable Flow	766	Stable Flow	1,281	Unstable Flow	1,007	Stable Flow
Otay Mesa Rd (E-W) @ SR-125 SB (N-S)	701	Stable Flow	677	Stable Flow	883	Stable Flow	982	Stable Flow
Otay Mesa Rd (E-W) @ SR-125 NB (N-S)	417	Stable Flow	754	Stable Flow	1,101	Stable Flow	1,306	Unstable Flow
Otay Mesa Rd (E-W) @ SR-905 Connector (N-S)	700	Stable Flow	911	Stable Flow	1,455	Unstable Flow	1,620	Over Capacity
Siempre Viva (E-W) @ SR-905 SB to EB Siempre Viva (N-S)	363	Stable Flow	463	Stable Flow	375	Stable Flow	568	Stable Flow
Siempre Viva (E-W) @ SR-905 NB Ramp (N-S)	372	Stable Flow	483	Stable Flow	373	Stable Flow	515	Stable Flow
ILV/Hour = Intersecting Lane Vehicles Per Hour; <1,200 ILV/Hour = Stable Flow; 1,200 - 1,500 ILV/Hour = Unstable Flow; 1,500 ILV/Hour = Capacity, Stop and Go Operation E-W = East-West Roadway; N-S = North-South Roadway								

EXISTING PLUS PROJECT UNITS 1-4 LEVEL OF SERVICE CONDITIONS

This section analyzes the existing conditions plus Units 1-4 of the proposed project. Figure 15 illustrates the existing plus Units 1-4 project traffic volumes.

Existing + Units 1-4 – Roadway Segments

Table 24 summarizes the daily roadway segment level of service analysis under the existing without and with Units 1-4 project conditions. As shown in Table 24, the following roadway segments operate at an unacceptable LOS E or F under existing plus Units 1-4 project conditions:

- Interim SR-905 (Otay Mesa Road) between Heritage Road and Britannia Boulevard (LOS F without and with Units 1-4 of the project);
- Interim SR-905 (Otay Mesa Road) between Britannia Boulevard and Piper Ranch Road (LOS E without the project and LOS F with Units 1-4 of the project);
- Interim SR-905 (Otay Mesa Road) between Piper Ranch Road and the SR-125 (LOS C without the project and LOS E with Units 1-4 of the project);
- Otay Mesa Road (Old Otay Mesa Road) between Sanyo Avenue and Enrico Fermi Drive (LOS D without the project and LOS F with Units 1-4 of the project);
- Otay Mesa Road (Old Otay Mesa Road) between Enrico Fermi Drive and Alta Road (LOS C without the project and LOS F with Units 1-4 of the project);

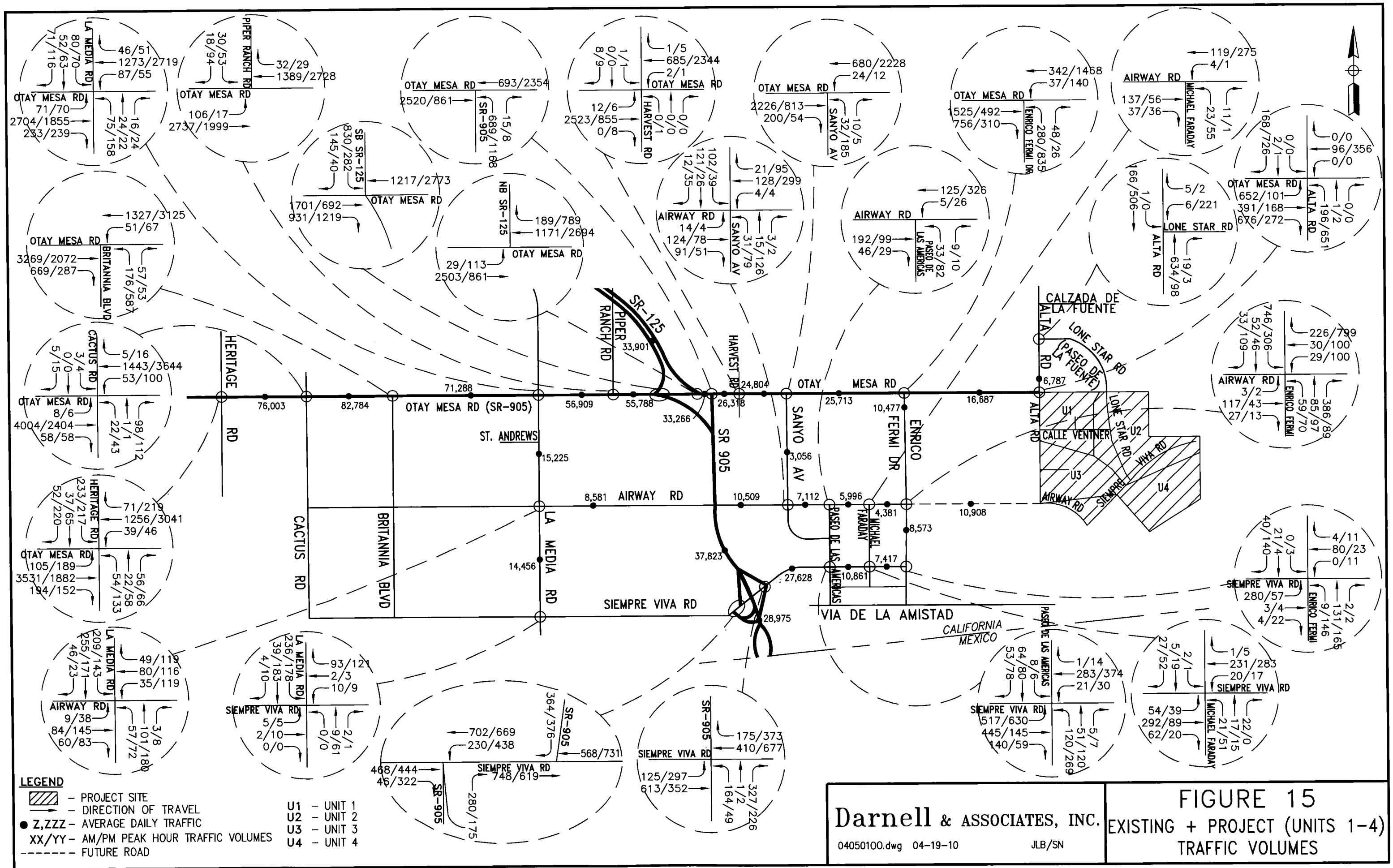


Table 24 – Existing + Units 1–4 Roadway Segment Daily LOS Summary

Roadway Segment	Jurisdiction	Class	Capacity (LOSE)	Existing 2008			Existing + Units 1-4						
				ADT	V/C	LOS	Proj. Tr	ADT	V/C	LOS	ΔV/C	Sig	
Interim SR-905 (Otay Mesa Rd) Heritage Rd to Cactus Rd Cactus Rd to Britannia Blvd Britannia Blvd to La Media Rd La Media Rd to Piper Ranch Rd Piper Ranch Rd to SR-125	City/Caltrans	6P	60,000	64,299	1.07	F	11,704	76,003	1.27	F	0.20	Yes	
	City/Caltrans	6P	60,000	71,080	1.19	F	11,704	82,784	1.38	F	0.20	Yes	
	City/Caltrans	6P	60,000	58,999	0.98	E	12,289	71,288	1.19	F	0.21	Yes ^(d)	
	City/Caltrans	5M	45,000	44,523	0.99	E	12,386	56,909	1.26	F	0.27	Yes ^(d)	
	County/City/Caltrans	6P	57,000	43,109	0.73	C	12,679	55,788	0.98	E	0.22	Yes ^(d)	
Otay Mesa Rd (Old Otay Mesa Rd) SR-125 to Interim SR-905 Connector Interim SR-905 Connector to Harvest Rd Harvest Rd to Sanyo Av Sanyo Av to Enrico Fermi Dr Enrico Fermi Dr to Alta Rd	County/City/Caltrans	5M(a)	47,000	16,686	0.36	A	16,580	33,266	0.71	C	0.35	No	
	County/City/Caltrans	5M(a)	47,000	9,738	0.21	A	16,580	26,318	0.56	B	0.35	No	
	County/City/Caltrans	4M	37,000	8,224	0.22	A	16,580	25,804	0.67	C	0.45	No	
	County/City	LC	16,200	9,133	0.56	D	16,580	25,713	1.59	F	1.03	Yes	
	County	LC	16,200	6,928	0.43	C	9,759	16,687	1.03	F	0.60	Yes	
Airway Road La Media Rd to SR-905 SR-905 to Sanyo Av (c) Sanyo Av to Paseo de las Americas Paseo de las Americas to Michael Faraday Dr Michael Faraday Dr to Enrico Fermi Dr Enrico Fermi Dr to Airway Pl Airway Pl to Alta Rd	City	2C	15,000	8,093	0.54	C	488	8,581	0.57	C	0.03	No	
	City	2C	10,000	9,631	0.96	E	878	10,509	1.05	F	0.09	Yes	
	City	4M	40,000	5,649	0.14	C	1,463	7,112	0.18	C	0.04	No	
	County/City	4M	37,000	4,513	0.12	C	1,463	5,996	0.16	C	0.04	No	
	County/City	LC	16,200	2,918	0.18	B	1,463	4,381	0.27	C	0.09	No	
	County	4C	34,200	1,160	0.03	A	9,748	10,908	0.32	A	0.29	No	
	County	LC	16,200	Does Not Exist			9,748	9,748	0.60	D	0.60	No	
Siempre Viva Road SR-905 NB to Paseo de las Americas Paseo de las Americas to Michael Faraday Dr Michael Faraday Dr to Enrico Fermi Dr Enrico Fermi Dr to Airway Pl	City	6P	60,000	26,653	0.44	B	975	27,628	0.46	B	0.02	No	
	City	4C	30,000	9,886	0.33	A	975	10,861	0.36	B	0.03	No	
	City	4C	30,000	6,442	0.22	A	975	7,417	0.25	A	0.04	No	
	County	LC	16,200	830	0.05	A	0	830	0.05	A	0.00	No	
La Media Road Otay Mesa Rd to St. Andrews	City	4C	30,000	15,225	0.51	C	0	15,225	0.51	C	0.00	No	
SR-125 North of Otay Mesa Rd	SBX	4-Fwy	(b)	30,000	0.33	A	3,901	33,901	0.37	A	0.04	No	

City = Capacity of city segments is based on the upper limits of LOS E per the City of San Diego; County = Capacity of county segments is based on the upper limits of LOS E per the County of San Diego;

SBX = South Bay Expressway; **Bold** = Jurisdiction which capacity is based on; ADT = Average Daily Traffic; LOS = Level of Service; V/C = Volume-to-LOS E Capacity Ratio; Fwy = Freeway; 6P = 6-Lane Prime Arterial;

5M = 5-Lane Major Arterial; 4M = 4-Lane Collector; 2C = 2-Lane Collector with no fronting property; LC = Light Collector; TC = Town Collector

(a) Additional lanes may be provided to accommodate turning movements and freeway access; hence the roadway capacity was assumed to be 47,000 ADT at LOS E (half way between a 4M & 6P).

(b) Capacity based on Caltrans District 11 & HCM procedures, See Appendix L for LOS calculations.

(c) Field checks conducted in January 2010 found that this segment of Airway Road was currently closed to traffic.

(d) Table 25 of the Arterial Roadway Segment analysis shows that the roadway segment does not have a significant impact.

Table 24 (Continued) – Existing + Units 1–4 Roadway Segment Daily LOS Summary											
Roadway Segment	Jurisdiction	Class	Capacity (LOS E)	Existing 2008			Existing + Units 1–4				
				ADT	V/C	LOS	Proj. Tr	ADT	V/C	LOS	Sig
Existing SR-905											
Otay Mesa Rd to Siempre Viva Rd	City/Caltrans	4M	40,000	37,823	0.95	E	0	37,823	0.95	E	No
South of Siempre Viva Rd	City/Caltrans	4-Fwy	(b)	28,000	0.32	A	975	28,975	0.33	A	No
Sanyo Avenue											
Otay Mesa Rd to Airway Rd	City	4C	30,000	2,666	0.09	A	390	3,056	0.10	A	No
Enrico Fermi Drive											
Otay Mesa Rd to Airway Rd	County	TC	19,000	2,681	0.14	A	7,796	10,477	0.55	D	No
Airway Rd to Siempre Viva Rd	City	4M	40,000	7,110	0.19	A	1,463	8,573	0.21	A	No
City = Capacity of city segments is based on the upper limits of LOS E per the City of San Diego; County = Capacity of county segments is based on the upper limits of LOS E per the County of San Diego; SBX = South Bay Expressway; Bold = Jurisdiction which capacity is based on; ADT = Average Daily Traffic; LOS = Level of Service; V/C = Volume-to-LOS E Capacity Ratio; Fwy = Freeway; 6P = 6-Lane Prime Arterial; 5M = 5-Lane Major Arterial; 4M = 4-Lane Major Arterial; 4C = 4-Lane Collector; 2C = 2-Lane Collector with no fronting property; LC = Light Collector; TC = Town Collector (a) Additional lanes may be provided to accommodate turning movements and freeway access; hence the roadway capacity was assumed to be 47,000 ADT at LOS E (half way between a 4M & 6P). (b) Capacity based on Caltrans District 11 & HCM procedures, See Appendix L for LOS calculations. (c) Field checks conducted in January 2010 found that this segment of Airway Road was currently closed to traffic. (d) Table 25 of the Arterial Roadway Segment analysis shows that the roadway segment does not have a significant impact.											

- Airway Road between SR-905 and Sanyo Avenue (LOS E without project and LOS F with Units 1-4 of the project – Airway Road is presently closed by Caltrans); and
- State Route 905 between Otay Mesa Road and Siempre Viva Road (LOS E without and with Units 1-4 of the project).

The segments of Interim SR-905 (Otay Mesa Road) between Heritage Road and Britannia Boulevard operate at an unacceptable LOS F under existing without and with Units 1-4 of the proposed project conditions. With the addition of 11,704 ADT from Units 1-4 of the project, the volume-to-capacity (v/c) ratio will be increased by 0.20 and the level of service on these segments of Interim SR-905 (Otay Mesa Road) will continue to operate at LOS F. The increase in v/c exceeds the 0.01 allowed per the City of San Diego's thresholds of significance for a roadway segment operating at LOS F, thus, based on average daily conditions Units 1-4 of the project has a significant direct impact on these segments of Interim SR-905 (Otay Mesa Road). Based on the arterial roadway segment analysis the segments of Interim SR-905 (Otay Mesa Road) between Heritage Road and Britannia Boulevard also operate at an unacceptable LOS E during at least one of the peak hours during at least one direction of travel, thus even based on peak hour levels of operation Units 1-4 of the project is considered to have a significant direct impact on the segments of Interim SR-905 (Otay Mesa Road) between Heritage Road and Britannia Boulevard. See the arterial roadway segment section for more details. See Section IX for a discussion on how the developer will mitigate its significant direct impacts.

The segments of Interim SR-905 (Otay Mesa Road) from Britannia Boulevard and Piper Ranch Road operate at an unacceptable LOS E under existing conditions. With the addition of between 12,289 and 12,389 ADT from Units 1-4 of the project, the v/c ratio will be increased by a range of 0.21 to 0.27 and the level of service on these segments of Interim SR-905 (Otay Mesa Road) will degrade to LOS F. The increase in v/c exceeds the 0.01 allowed per the City of San Diego's thresholds of significance for a roadway segment operating at LOS F, thus, based on average daily conditions Units 1-4 of the project has a significant direct impact on these segments of Interim SR-905 (Otay Mesa Road). However, based on the arterial roadway segment analysis the segments of Interim SR-905 (Otay Mesa Road) between Britannia Boulevard and Piper Ranch Road operate at an acceptable level of service and the project is not considered to have a significant direct impact. See the arterial roadway segment section for more details.

The segment of Interim SR-905 (Otay Mesa Road) between Piper Ranch Road and SR-125 operates at an acceptable LOS C under existing conditions. With the addition of 12,679 ADT from Units 1-4 of the project, the v/c ratio will be increased by 0.22 and the level of service on this segment of Interim SR-905 (Otay Mesa Road) will degrade to LOS E. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F). Since Units 1-4 of the project lowers the existing level of service from LOS C to LOS E, based on average daily conditions, Units 1-4 of the project is considered to have a significant direct impact. However, based on the arterial roadway segment analysis the segment of Interim SR-905 (Otay Mesa Road) between Piper Ranch Road and the SR-125 operates at an acceptable level of service and the project is not considered to have a significant direct impact. See the arterial roadway segment section for more details.

The segment of Otay Mesa Road (Old Otay Mesa Road) between Sanyo Avenue and Enrico Fermi Drive operates at LOS D under existing conditions. With the addition of 16,580 ADT from Units 1-4 of the project, this segment of Otay Mesa Road (Old Otay Mesa Road) will operate at LOS F. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F). Since Units 1-4 of the project lowers the existing level of service from LOS D to LOS F, based on average daily conditions, Units 1-4 of the project is considered to have a significant direct impact on the segment of Otay Mesa Road (Old Otay Mesa Road) between Sanyo Avenue and Enrico Fermi Drive. See Section IX for a discussion on how the developer will mitigate its significant direct impacts.

The segment of Otay Mesa Road (Old Otay Mesa Road) between Enrico Fermi Drive and Alta Road operates at LOS C under existing conditions. With the addition of 9,759 ADT from Units 1-4 of the project, this segment of Otay Mesa Road (Old Otay Mesa Road) will operate at LOS F. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F). Since Units 1-4 of the project lowers the existing level of service from LOS C to LOS F, based on average daily conditions, Units 1-4 of the project is considered to have a significant direct impact on the segment of Otay Mesa Road (Old Otay Mesa Road) between Enrico Fermi Drive to Alta Road. See Section IX for a discussion on how the developer will mitigate its significant direct impacts.

Although based on February 2008 count data, the segment of Airway Road between SR-905 and Sanyo Avenue operates at LOS E under existing conditions. This segment of Airway Road; however, is currently closed to traffic for the construction of the structures at the SR-905/Airway Road intersection. By the time Units 1-4 of the proposed project comes on line this segment of Airway Road is anticipated to be re-opened, thus project traffic is added to the segment of Airway Road between the SR-905 and Sanyo Avenue. With the addition of 878 ADT from Units 1-4 of the proposed project the v/c ratio will be increased by 0.04 and the level of service on this segment of Airway Road will operate at LOS F. The increase in v/c exceeds the 0.01 allowed per the City of San Diego's thresholds of significance for a roadway segment operating at LOS F, thus, based on average daily conditions Units 1-4 of the project has a significant direct impact on the segment of Airway Road between the SR-905 and Sanyo Avenue. See Section IX for a discussion on how the developer will mitigate its significant direct impacts.

The segment of SR-905 between Otay Mesa Road and Siempre Viva Road operates at LOS E under existing without and with Units 1-4 of the project conditions. Since the project is not adding any traffic to this segment the v/c ratio will not be increased with the addition of the project; thus, Units 1-4 of the proposed project is not considered to have a significant impact.

All other roadway segments continue to operate at LOS D or better under existing plus Units 1-4 of the proposed project conditions.

Existing + Units 1-4 – Arterial Roadway Segments

A review of the 24 hour counts sheets for Otay Mesa Road, found that the traffic flow is rather constant between the hours of 7:00am to 6:00 pm, compared to most 5-lane and 6-lane roadways which have high peak hour flows in the morning and afternoon. Further it should be noted that the Otay Mesa Port-of-Entry is open 24 hours a day with long lines crossing the border. This results in the spread of vehicles through the day resulting in increased daily traffic volumes. Since level of service based on daily volumes assumes significant increases in traffic counts during the peak hour periods, daily capacity analysis is not particularly accurate for Otay Mesa Road. Therefore, in addition to evaluating the roadway based on daily capacity it was also analyzed based on the Highway Capacity Manual's (HCM) Arterial Segment Methodology utilizing the Synchro software. Since the arterial segment analysis determines level of service based on the average travel speeds that occur on the roadway it provides a more accurate representation of the travel patterns and levels of service for Otay Mesa Road. The results of the analysis are summarized in Table 25.

Table 25 – Existing + Units 1-4 Arterial LOS Summary

AM Peak Hour									
Intersection	Jurisdiction	Direction of Travel	Existing (A)		Existing + Units 1-4 (B)			(B) – (A)	
			Speed (mph)	LOS	Speed (mph)	LOS	Δ Speed	Sig. Impact	
Interim SR-905 - Heritage Rd. to Cactus Rd.	City/Caltrans	EB	35.3	A	17.4	D	(17.9)	No	
		WB	31.2	B	30.4	B	(0.8)		
Interim SR-905 - Cactus Rd. to Britannia Blvd.	City/Caltrans	EB	32.1	B	13.7	E	(18.4)	Yes	
		WB	38.9	A	38.9	A	0.0		
Interim SR-905 - Britannia Blvd. to La Media Rd.	City/Caltrans	EB	42.6	A	38.5	A	(4.1)	No	
		WB	43.6	A	43.2	A	(0.4)		
Interim SR-905 - La Media Rd. to Piper Ranch Rd.	City/Caltrans/ County	EB	38.5	A	22.0	D	(16.5)	No	
		WB	33.0	B	32.2	B	(0.8)		
Interim SR-905 - Piper Ranch Rd to SR125 SB	City/Caltrans/ County	EB	34.0	B	20.8	D	(13.2)	No	
		WB	29.5	B	27.3	C	(2.2)		
PM Peak Hour									
Intersection	Jurisdiction	Direction of Travel	Existing (A)		Existing + Units 1-4 (B)			(B) – (A)	
			Speed (mph)	LOS	Speed (mph)	LOS	Δ Speed	Sig. Impact	
Interim SR-905 - Heritage Rd. to Cactus Rd.	City/Caltrans	EB	29.3	B	30.8	B	1.5	Yes	
		WB	24.4	C	16.1	E	(8.3)		
Interim SR-905 - Cactus Rd. to Britannia Blvd.	City/Caltrans	EB	36.1	A	32.7	B	(3.4)	No	
		WB	38.2	A	33.4	B	(4.8)		
Interim SR-905 - Britannia Blvd. to La Media Rd.	City/Caltrans	EB	35.4	A	33.7	B	(1.7)	No	
		WB	39.4	A	33.6	B	(5.8)		
Interim SR-905 - La Media Rd. to Piper Ranch Rd.	City/Caltrans/ County	EB	38.1	A	36.2	A	(1.9)	No	
		WB	28.3	B	19.2	D	(9.1)		
Interim SR-905 - Piper Ranch Rd to SR125 SB	City/Caltrans/ County	EB	35.8	B	31.3	B	(4.5)	No	
		WB	34.2	B	30.7	B	(3.5)		
LOS=Level of Service; Speed is measured in miles per hour (mph); sig=signalized; Δ Speed = Increase (decrease) in speed; SBX = South Bay Expressway. Occasionally adding traffic to a critical movement optimizes the segment resulting in increase in speed.									

Based on daily roadway segment capacities summarized in Table 20, Units 1-4 of the project is part of significant impact to the roadway segments of Interim SR-905 (Otay Mesa Road) between Heritage Road and the SR-125. The arterial roadway segment analysis summarized in Table 25, shows that the segments of Interim SR-905 (Otay Mesa Road) between Britannia Boulevard and the SR-125 operates at LOS D or better during both peak hours. Thus, based on peak hour analysis, Units 1-4 of the proposed project is not considered to be part of a significant direct impact on the segments of Interim SR-905 (Otay Mesa Road) between Britannia Boulevard and the SR-125.

The segments of Interim SR-905 (Otay Mesa Road) between Heritage Road and Britannia Boulevard operate at LOS E during at least one of the peak hours during at least one direct of travel under existing plus Units 1-4 of the project conditions. Thus, Units 1-4 of the proposed project is considered to be a significant part of the direct impacts based on daily and peak hour analysis on the segments of Interim SR-905 (Otay Mesa Road) between Heritage Road and Britannia Boulevard. A copy of the Synchro worksheets can be found in Appendix D and H.

Existing + Units 1-4 – Intersections

Existing + Units 1-4 – Synchro Analysis

Table 26 summarizes the existing plus Units 1-4 project conditions intersection level of service summary during the AM and PM peak hours. (A copy of the Synchro worksheets can be found in Appendix D and H.) As shown in Table 26, the following intersections operate at LOS E or F during at least one of the peak hours under existing plus Units 1-4 project conditions:

- Interim SR-905 (Otay Mesa Road)/Heritage Road (LOS C without project and LOS F during the AM peak hour with Units 1-4);
- Interim SR-905 (Otay Mesa Road)/Britannia Boulevard (LOS B without project and LOS E during the AM peak hour with Units 1-4);
- Otay Mesa Road/Interim SR-905 Connector (LOS C or better without project and LOS F with Units 1-4 of the project);
- Otay Mesa Road (Old Otay Mesa Road)/Sanyo Avenue (LOS B without the project and LOS F during the PM peak hour with Units 1-4 of the project);
- Otay Mesa Road (Old Otay Mesa Road)/Enrico Fermi Drive (LOS B or better without project and LOS F with Units 1-4 of the project); and
- Otay Mesa Road (Old Otay Mesa Road)/Alta Road (Total intersection operates at LOS B or better without the project and LOS F during both peak hours with Units 1-4 of the project).

The Interim SR-905 (Otay Mesa Road)/Heritage Road intersection operates at LOS C during the AM peak hour under existing conditions. With the addition of 1,617 AM peak hour trips from Units 1-4 of the project the AM peak hour delay will be increased by 51.5 seconds degrading the existing LOS to LOS F. The increase in delay exceeds the one (1) second allowed per the City of San Diego's thresholds of significance for an intersection operating at LOS F, thus Units 1-4 of the project has a significant direct impact on the Interim SR-905 (Otay Mesa Road)/Heritage Road intersection. See Section IX for a discussion on how the developer will mitigate its significant direct impact.

Table 26 - Existing + Units 1-4 Intersection Level of Service Summary

Intersections	Jurisdiction	Traffic Control	Critical Move	Existing						Existing + Units 1-4					
				AM Peak			PM Peak			AM Peak			PM Peak		
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Proj. Trips	Δ Delay	Sig.	Delay
Otay Mesa Rd (E-W) @ Heritage Rd (N-S)	City/Caltrans	Sig.	Int	30.1	C	29.2	C	81.6	F	1,617	51.5	Yes	52.1	D	1,726
Otay Mesa Rd (E-W) @ Cactus Rd (N-S)	City/Caltrans	Sig.	Int	8.9	A	11.5	B	45.9	D	1,617	37.0	No	13.6	B	1,726
Otay Mesa Rd (E-W) @ Britannia Blvd (N-S)	City/Caltrans	Sig.	Int	10.3	B	18.8	B	56.5	E	1,672	46.2	Yes	27.0	C	1,784
Otay Mesa Rd (E-W) @ La Media Rd (N-S)	City/Caltrans	Sig.	Int	14.1	B	27.0	C	16.7	B	1,723	2.6	No	42.0	D	1,840
Otay Mesa Rd (E-W) @ Piper Ranch Rd (N-S)	County/City/Caltrans	Sig.	Int	6.1	A	3.6	A	27.7	C	1,750	21.6	No	5.0	A	1,869
Otay Mesa Rd (E-W) @ SR-125 SB (N-S)	County/City/SBX	Sig.	Int	11.2	B	2.5	A	15.7	B	2,176	4.5	No	5.1	A	2,044
Otay Mesa Rd (E-W) @ SR-125 NB (N-S)	County/City/SBX	Sig.	Int	0.9	A	5.6	A	5.7	A	2,289	4.8	No	39.0	D	2,444
Otay Mesa Rd (E-W) @ SR-905 (N-S)	County/City/SBX	Sig.	Int	16.1	B	21.1	C	121.6	F	2,289	105.5	Yes	153.2	F	2,444
Otay Mesa Rd (E-W) @ Sanyo Av (N-S)	County/City	Sig.	Int	4.1	A	12.6	B	23.5	B	2,289	19.4	No	289.5	F	2,444
Otay Mesa Rd (E-W) @ Enrico Fermi Dr (N-S)	County	Sig.	Int	10.4	B	9.4	A	512.3	F	2,317	501.9	Yes	205.2	F	2,545
Otay Mesa Rd (E-W) @ Alta Rd (N-S)	County	AWSC	EB	32.5	D	9.8	A	800.6	F	1,065	768.1		310.6	F	438
			WB	0.0	A	0.0	A	10.8	B	96	10.8		104.7	F	356
			NB	9.3	A	8.2	A	14.0	B	187	4.7	Yes	497.7	F	645
			SB	9.8	A	18.3	C	11.7	B	0	1.9		518.9	F	0
Airway Rd (E-W) @ La Media Rd (N-S)	City	AWSC	Int	27.6	D	17.2	C	632.8	F	1,348	605.2		398.5	F	1,439
			EB	11.1	B	14.5	B	11.3	B	0	0.2		16.1	C	0
			WB	10.9	B	13.9	B	11.7	B	28	0.2		20.4	C	100
			NB	11.4	B	15.4	C	11.7	B	0	0.3	No	17.4	C	0
			SB	13.3	B	12.2	B	13.8	B	0	0.5		13.5	C	0
			Int	12.3	B	13.9	B	12.7	B	28	0.4		16.9	C	100

LOS=Level of Service; Delay is measured in seconds/vehicle; sig=signalized; AWSC=All Way Stop Controlled; TWSC = Two-Way Stop-Controlled; OWSC=One Way Stop Controlled; Int = Intersection; NB = Northbound Approach; SB = Southbound Approach; EB = Eastbound Approach; WB = Westbound Approach; SBX = South Bay Expressway; E-W = East-West Roadway; N-S = North-South Roadway; Bold = Jurisdiction which significance criteria is based on Δ Delay = Increase (decrease) in delay; Occasionally adding traffic to a critical movement optimizes the intersection resulting in a decrease in delay

Table 26 (Continued) - Existing + Units 1-4 Intersection Level of Service Summary

Intersections	Jurisdiction	Traffic Control	Critical Move	Existing						Existing + Units 1-4					
				AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Proj. Trips	Sig.
Airway Rd (E-W) @ Sanyo Av (N-S)	City	AWSC	EB	10.1	B	9.9	A	11.6	B	43	B	11.0	B	18	1.1
			WB	8.1	A	9.1	A	9.0	A	52	A	13.2	B	180	4.1
			NB	8.0	A	9.2	A	8.5	A	0	A	10.3	B	0	1.1
			SB	9.6	A	8.0	A	11.4	B	43	B	9.3	A	18	1.3
			Int	9.3	A	9.1	A	10.7	B	138	B	11.7	B	216	2.6
Airway Rd (E-W) @ Paseo De Las Americas (N-S)	County/City	OWSC	NB	9.7	A	10.6	B	10.9	B	0	B	13.8	B	0	3.2
Airway Rd (E-W) @ Michael Faraday (N-S)	County/City	OWSC	NB	9.6	A	9.6	A	10.4	B	0	B	11.8	B	0	2.2
Airway Rd (E-W) @ Enrico Fermi Dr (N-S)	County/City	Sig.	Int	6.6	A	13.0	B	29.4	C	1,373	C	20.2	C	1,536	7.2
Siempre Viva Rd (E-W) @ La Media Rd (N-S)	City	AWSC	EB	8.0	A	8.4	A	8.1	A	0	A	8.7	A	0	0.3
			WB	7.8	A	8.5	A	7.9	A	0	A	9.0	A	0	0.5
			NB	7.6	A	8.4	A	7.6	A	0	A	8.6	A	0	0.2
			SB	9.8	A	11.0	B	10.3	B	28	B	14.0	B	100	3.0
			Int	9.2	A	9.9	A	9.5	A	28	A	12.2	B	100	2.3
Siempre Viva Rd (E-W) @ SR-905 SB off to Siempre Viva EB (N-S)	Caltrans	Sig.	Int	7.0	A	8.5	A	7.6	A	28	A	9.6	A	100	1.1
Siempre Viva Rd (E-W) @ SR-905 SB off to Siempre Viva WB (N-S)	Caltrans	OWSC	SB	14.3	B	13.3	B	14.7	B	0	B	13.1	B	0	0.2
Siempre Viva Rd (E-W) @ SR-905 NB Ramp (N-S)	Caltrans	Sig.	Int	10.8	B	11.0	B	10.4	B	134	B	10.9	B	143	(0.1)
Siempre Viva Rd (E-W) @ Paseo De Las Americas (N-S)	City	Sig.	Int	24.7	C	40.0	D	24.2	C	134	C	42.2	D	143	(2.2)
Siempre Viva Rd (E-W) @ Michael Faraday (N-S)	City	OWSC	NB	14.5	B	13.2	B	17.2	C	0	C	15.3	C	0	2.1
Siempre Viva Rd (E-W) @ Enrico Fermi Dr (N-S)	County/City	Sig.	SB	15.9	C	12.3	B	18.5	C	0	C	14.1	B	0	1.8
Alta Rd (N-S) @ Paseo De La Fuente (E-W)	County	Sig.	Int	12.6	B	13.7	B	12.7	B	240	B	13.0	B	186	(0.7)
	County	Sig.	Int	2.7	A	12.6	B	2.2	A	0	A	12.6	A	0	0.0

LOS=Level of Service; Delay is measured in seconds/vehicle; sig=signalized; AWSC=All Way Stop Controlled; TWSC = Two-Way Stop Controlled; OWSC=One Way Stop Controlled;

Int = Intersection; NB = Northbound Approach; SB = Southbound Approach; EB = Eastbound Approach; WB = Westbound Approach;

SBX = South Bay Expressway; E-W = East-West Roadway; N-S = North-South Roadway; **Bold** = Jurisdiction which significance criteria is based on

Δ Delay = Increase (decrease) in delay; Occasionally adding traffic to a critical movement optimizes the intersection resulting in a decrease in delay

The Interim SR-905 (Otay Mesa Road)/Britannia Boulevard intersection operates at LOS B during the AM peak hour under existing conditions. With the addition of 1,672 AM peak hour trips from Units 1-4 of the project the AM peak hour delay will be increased by 46.2 seconds degrading the existing LOS to LOS E. The increase in delay exceeds the two (2) seconds allowed per the City of San Diego's thresholds of significance for an intersection operating at LOS E, thus Units 1-4 of the project has a significant direct impact on the Interim SR-905 (Otay Mesa Road)/Britannia Boulevard intersection. See Section IX for a discussion on how the developer will mitigate its significant direct impact.

The Otay Mesa Road/Interim SR-905 Connector intersection operates at LOS B during the AM peak hour and LOS C during the PM peak hour under existing conditions. With the addition of 2,289 AM peak hour trips from Units 1-4 of the project, the AM peak hour delay will be increased by 105.5 seconds degrading the existing LOS to LOS F. With the addition of 2,444 PM peak hour trips from Units 1-4 of the project, the PM peak hour delay will be increased by 132.1 seconds degrading the existing LOS to LOS F. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F). Since the proposed project lowers the existing level of service from an acceptable LOS C or better to an unacceptable LOS F, Units 1-4 of the proposed project is considered to have a significant direct impact at the Otay Mesa Road/Interim SR-905 Connector intersection. See Section IX for a discussion on how the developer will mitigate its significant direct impact.

The Otay Mesa Road (Old Otay Mesa Road)/Sanyo Avenue intersection operates at LOS A during the AM peak hour and LOS B during the PM peak hour under existing conditions. With the addition of 2,444 PM peak hour trips from Units 1-4 of the project to the intersection, the intersection will degrade to LOS F. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F). Thus, per the PFE Units 1-4 of the project is considered to have a significant direct impact at the Otay Mesa Road (Old Otay Mesa Road)/Sanyo Avenue intersection. See Section IX for a discussion on how the developer will mitigate its significant direct impacts.

The Otay Mesa Road (Old Otay Mesa Road)/Enrico Fermi Drive intersection operates at LOS B during the AM peak hour and LOS A during the PM peak hour under existing conditions. With the addition of 2,317 AM peak hour trips and 2,545 PM peak hour trips from Units 1-4 of the project, the AM peak hour delay will be increased by 205.2 seconds and the PM peak hour delay will be increased by 195.8 seconds degrading the existing LOS to LOS F during both peak hours. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F). Since the proposed project lowers the existing level of service from an acceptable LOS B or better to an unacceptable LOS F, Units 1-4 of the proposed project is considered to have a significant direct impact at the Otay Mesa Road (Old Otay Mesa Road)/Enrico Fermi Drive intersection. See Section IX for a discussion on how the developer will mitigate its significant direct impact.

The Otay Mesa Road (Old Otay Mesa Road)/Alta Road intersection currently operates at LOS D during the AM peak hour and LOS C during the PM peak hour overall. With the addition of 1,348 AM peak hour trips (1,065 to the eastbound approach) from Units 1-4 of the project to the intersection, the eastbound approach and overall intersection will degrade to LOS F. With the addition of 1,439 PM peak hour trips (645 to the northbound approach) from Units 1-4 of the project all approaches and the overall intersection will degrade to LOS F. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F). Thus, per the PFE Units 1-4 of the project is considered to have a significant direct impact at the Otay Mesa Road (Old Otay Mesa Road)/Alta Road intersection. See Section IX for a discussion on how the developer will mitigate its significant direct impacts.

All other intersections continue to operate at LOS D or better under existing plus Units 1-4 project conditions.

Existing + Units 1-4 – ILV Analysis

Table 27 summarizes the existing without and with project conditions intersection ILV analysis. As shown in Table 27, the Otay Mesa Road/SR-125 SB Ramp, Siempre Viva Road/SR-905 Southbound to Eastbound Siempre Viva Road and Siempre Viva Road/SR-905 Northbound Ramp operates under stable flow during the AM and PM peak hours under existing without and with project conditions. All other intersections operate under unstable flow or at over capacity. A copy of the ILV worksheets can be found in Appendix H.

The Otay Mesa Road/Heritage Road currently operates under stable flow during both the AM and PM peak hours. With addition to Units 1-4 of the project the Otay Mesa Road/Heritage Road intersection operate at over capacity during the AM and under unstable flow during the PM peak hour.

The Otay Mesa Road/Cactus Road, Otay Mesa Road/Britannia Boulevard and Otay Mesa Road/SR-125 Northbound Ramp currently operates under stable flow during both the AM and PM peak hours. With addition to Units 1-4 of the project the Otay Mesa Road/Cactus Road, Otay Mesa Road/Britannia Boulevard and Otay Mesa Road/SR-125 Northbound Ramp intersections operate under unstable flow during both the AM and PM peak hours.

The Otay Mesa Road/La Media Road currently operates under stable flow during both the AM and PM peak hours. With addition to Units 1-4 of the project the Otay Mesa Road/La Media Road intersection operates under stable flow during the AM peak hour and unstable flow during the PM peak hour.

The Otay Mesa Road/Piper Ranch Road currently operates under stable flow during both the AM and PM peak hours. With addition to Units 1-4 of the project the Otay Mesa Road/Piper Ranch Road intersection operate under unstable flow during both the AM peak hour and stable flow during the PM peak hour.

The Otay Mesa Road/SR-125 Northbound Ramp currently operates under stable flow during both the AM and PM peak hours. With addition to Units 1-4 of the project Otay Mesa Road/SR-125 Northbound Ramp intersection operates under unstable flow during both the AM and PM peak hours.

The Otay Mesa Road/SR-905 Connector currently operates under stable flow during both the AM and PM peak hours. With addition to Units 1-4 of the project the Otay Mesa Road/SR-905 Connector intersection operates at over capacity during both the AM and PM peak hours.

Table 27 – Existing + Units 1-4 ILV Analysis								
Intersection	Existing				Existing + Units 1-4			
	AM Peak Hour		PM Peak Hour		AM Peak		PM Peak	
	ILV/Hr	Operating Condition	ILV/Hr	Operating Condition	ILV/Hr	Operating Condition	ILV/Hr	Operating Condition
Otay Mesa Rd (E-W) @ Heritage Rd (N-S)	1,115	Stable Flow	1,049	Stable Flow	1,541	Over Capacity	1,450	Unstable Flow
Otay Mesa Rd (E-W) @ Cactus Rd (N-S)	1,129	Stable Flow	1,055	Stable Flow	1,487	Unstable Flow	1,425	Unstable Flow
Otay Mesa Rd (E-W) @ Britannia Blvd (N-S)	708	Stable Flow	936	Stable Flow	1,229	Unstable Flow	1,336	Unstable Flow
Otay Mesa Rd (E-W) @ La Media Rd (N-S)	740	Stable Flow	924	Stable Flow	1,196	Stable Flow	1,331	Unstable Flow
Otay Mesa Rd (E-W) @ Piper Ranch Rd (N-S)	696	Stable Flow	766	Stable Flow	1,385	Unstable Flow	1,049	Stable Flow
Otay Mesa Rd (E-W) @ SR-125 SB (N-S)	701	Stable Flow	677	Stable Flow	982	Stable Flow	1,067	Stable Flow
Otay Mesa Rd (E-W) @ SR-125 NB (N-S)	417	Stable Flow	754	Stable Flow	1,252	Unstable Flow	1,404	Unstable Flow
Otay Mesa Rd (E-W) @ SR-905 Connector (N-S)	700	Stable Flow	911	Stable Flow	1,605	Over Capacity	1,761	Over Capacity
Siempre Viva (E-W) @ SR-905 SB to EB Siempre Viva (N-S)	363	Stable Flow	463	Stable Flow	370	Stable Flow	533	Stable Flow
Siempre Viva (E-W) @ SR-905 NB Ramp (N-S)	372	Stable Flow	483	Stable Flow	378	Stable Flow	530	Stable Flow
ILV/Hour = Intersecting Lane Vehicles Per Hour; <1,200 ILV/Hour = Stable Flow; 1,200 - 1,500 ILV/Hour = Unstable Flow; 1,500 ILV/Hour = Capacity, Stop and Go Operation E-W = East-West Roadway; N-S = North-South Roadway								

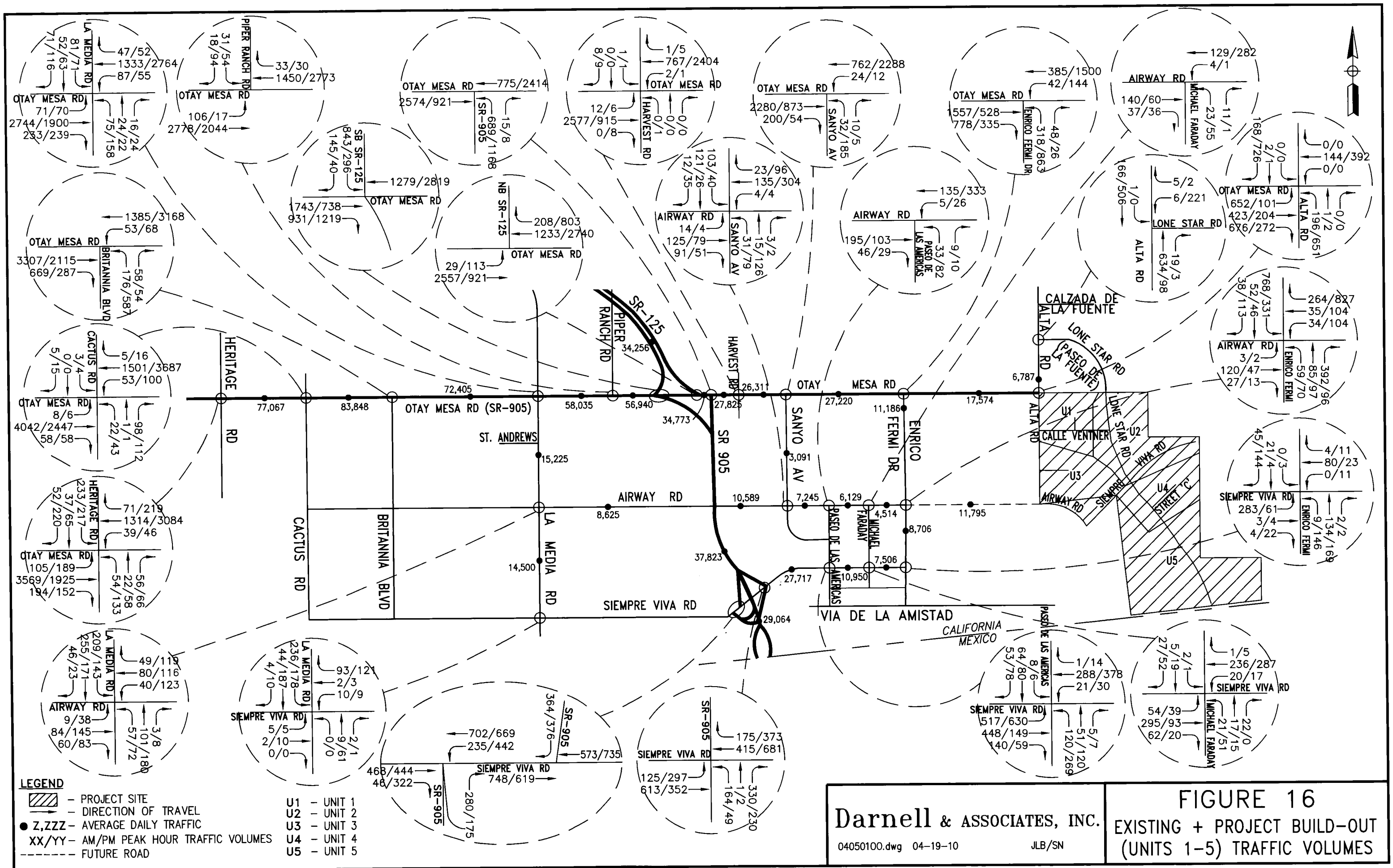
EXISTING PLUS PROJECT BUILD-OUT (UNITS 1-5) LEVEL OF SERVICE CONDITIONS

This section analyzes the existing conditions plus build-out of the proposed project (Units 1-5). Figure 16 illustrates the existing plus Units 1-5 project traffic volumes.

Existing + Project Build-Out (Units 1-5) – Roadway Segments

Table 28 summarizes the daily roadway segment level of service analysis under the existing without and with Units 1-5 project conditions. As shown in Table 28, the following roadway segments operate at an unacceptable LOS E or F under existing plus Units 1-5 project conditions:

- Interim SR-905 (Otay Mesa Road) between Heritage Road and Britannia Boulevard (LOS F without and with Units 1-5 of the project);
- Interim SR-905 (Otay Mesa Road) between Britannia Boulevard and Piper Ranch Road (LOS E without the project and LOS F with Units 1-5 of the project);
- Interim SR-905 (Otay Mesa Road) between Piper Ranch Road and the SR-125 (LOS C without the project and LOS E with Units 1-5 of the project);
- Otay Mesa Road (Old Otay Mesa Road) between Sanyo Avenue and Enrico Fermi Drive (LOS D without the project and LOS F with Units 1-5 of the project);
- Otay Mesa Road (Old Otay Mesa Road) between Enrico Fermi Drive and Alta Road (LOS C without the project and LOS F with Units 1-5 of the project);



Roadway Segment	Jurisdiction	Class	Capacity (LOS E)	Existing 2008			Existing + Project Build Out (Units 1–5)					
				ADT	V/C	LOS	Proj. Tr	ADT	V/C	LOS	ΔV/C	Sig
Interim SR-905 (Otay Mesa Rd)												
Heritage Rd to Cactus Rd	City/Caltrans	6P	60,000	64,299	1.07	F	12,768	77,067	1.28	F	0.21	Yes
Cactus Rd to Britannia Blvd	City/Caltrans	6P	60,000	71,080	1.19	F	12,768	83,848	1.40	F	0.22	Yes
Britannia Blvd to La Media Rd	City/Caltrans	6P	60,000	58,999	0.98	E	13,406	72,405	1.21	F	0.23	Yes ^(a)
La Media Rd to Piper Ranch Rd	City/Caltrans	5M	45,000	44,523	0.99	E	13,512	58,035	1.29	F	0.30	Yes ^(a)
Piper Ranch Rd to SR-125	County/City/Caltrans	6P	57,000	43,109	0.73	C	13,831	56,940	1.00	E	0.24	Yes ^(a)
Otay Mesa Rd (Old Otay Mesa Rd)												
SR-125 to Interim SR-905 Connector	County/City/Caltrans	5M(a)	47,000	16,686	0.36	A	18,087	34,773	0.74	C	0.38	No
Interim SR-905 Connector to Harvest Rd	County/City/Caltrans	5M(a)	47,000	9,738	0.21	A	18,087	27,825	0.59	B	0.38	No
Harvest Rd to Sanyo Av	County/City/Caltrans	4M	37,000	8,224	0.22	A	18,087	26,311	0.71	C	0.49	No
Sanyo Av to Enrico Fermi Dr	County/City	LC	16,200	9,133	0.56	D	18,087	27,220	1.68	F	1.12	Yes
Enrico Fermi Dr to Alta Rd	County	LC	16,200	6,928	0.43	C	10,646	17,574	1.08	F	0.65	Yes
Airway Road												
La Media Rd to SR-905	City	2C	15,000	8,093	0.54	C	532	8,625	0.58	C	0.04	No
SR-905 to Sanyo Av(c)	City	2C	15,000	9,631	0.96	E	958	10,589	1.06	F	0.10	Yes
Sanyo Av to Paseo de las Americas	City	4M	40,000	5,649	0.14	C	1,596	7,245	0.18	C	0.04	No
Paseo de las Americas to Michael Faraday Dr	County/City	4M	37,000	4,513	0.12	C	1,596	6,129	0.17	C	0.05	No
Michael Faraday Dr to Enrico Fermi Dr	County/City	LC	16,200	2,918	0.18	B	1,596	4,514	0.28	C	0.10	No
Enrico Fermi Dr to Airway Pl	County	4C	34,200	1,160	0.03	A	10,635	11,795	0.34	A	0.31	No
Airway Pl to Alta Rd	County	LC	16,200	Does Not Exist			10,635	10,635	0.66	D	0.66	No
Siempre Viva Road												
SR-905 NB to Paseo de las Americas	City	6P	60,000	26,653	0.44	B	1,064	27,717	0.46	B	0.02	No
Paseo de las Americas to Michael Faraday Dr	City	4C	30,000	9,886	0.33	A	1,064	10,950	0.37	B	0.04	No
Michael Faraday Dr to Enrico Fermi Dr	City	4C	30,000	6,442	0.22	A	1,064	7,506	0.25	A	0.04	No
Enrico Fermi Dr to Airway Pl	County	4C	34,200	830	0.02	A	0	830	0.02	A	0.00	No
La Media Road												
Otay Mesa Rd to St. Andrews	City	4C	30,000	15,225	0.51	C	0	15,225	0.51	C	0.00	No
SR-125												
North of Otay Mesa Rd	SBX	4-Fwy	(b)	30,000	0.33	A	4,256	34,256	0.38	A	0.05	No

City = Capacity of city segments is based on the upper limits of LOS E per the City of San Diego; County = Capacity of county segments is based on the upper limits of LOS E per the County of San Diego; SBX = South Bay Expressway; **Bold** = Jurisdiction which capacity is based on; ADT = Average Daily Traffic; LOS = Level of Service; V/C = Volume-to LOS E Capacity Ratio; Fwy = Freeway; 6P = 6-Lane Prime Arterial; 5M = 5-Lane Major Arterial; 4M = 4-Lane Major Arterial; 4C = 4-Lane Collector; 2C = 2-Lane Collector with no fronting property; LC = Light Collector; TC = Town Collector

(a) Additional lanes may be provided to accommodate turning movements and freeway access; hence the roadway capacity was assumed to be 47,000 ADT at LOS E (half way between a 4M & 6P).

(b) Capacity based on Caltrans District 11 & HCM procedures, See Appendix L for LOS calculations.

(c) Field checks conducted in January 2010 found that this segment of Airway Road was currently closed to traffic.

(d) Table 29 of the Arterial Roadway Segment analysis shows that the roadway segment does not have a significant impact.

Table 28 (Continued) – Existing + Project Build Out (Units 1–5) Roadway Segment Daily LOS Summary										
Roadway Segment	Jurisdiction	Class	Capacity (LOS E)	Existing 2008			Existing + Project Build Out (Units 1–5)			
				ADT	V/C	LOS	Proj. Tr.	ADT	V/C	LOS
Existing SR-905										
Otay Mesa Rd to Siempre Viva Rd	City/Caltrans	4M	40,000	37,823	0.95	E	0	37,823	0.95	E
South of Siempre Viva Rd	City/Caltrans	4-Fwy	(b)	28,000	0.32	A	1,064	29,064	0.33	A
Sanyo Avenue										
Otay Mesa Rd to Airway Rd	City	4C	30,000	2,666	0.09	A	425	3,091	0.10	A
Enrico Fermi Drive										
Otay Mesa Rd to Airway Rd	County	TC	19,000	2,681	0.14	A	8,505	11,186	0.59	D
Airway Rd to Siempre Viva Rd	City	4M	40,000	7,110	0.19	A	1,596	8,706	0.22	A
City = Capacity of city segments is based on the upper limits of LOS E per the City of San Diego; County = Capacity of county segments is based on the upper limits of LOS E per the County of San Diego; SBX = South Bay Expressway; Bold = Jurisdiction which capacity is based on; ADT = Average Daily Traffic; LOS = Level of Service; V/C = Volume-to LOS E Capacity Ratio; Fwy = Freeway; 6P = 6-Lane Prime Arterial; 5M = 5-Lane Major Arterial; 4M = 4-Lane Major Arterial; 4C = 4-Lane Collector; 2C = 2-Lane Collector with no fronting property; LC = Light Collector; TC = Town Collector (a) Additional lanes may be provided to accommodate turning movements and freeway access; hence the roadway capacity was assumed to be 47,000 ADT at LOS E (half way between a 4M & 6P). (b) Capacity based on Caltrans District 11 & HCM procedures, See Appendix L for LOS calculations. (c) Field checks conducted in January 2010 found that this segment of Airway Road was currently closed to traffic. (d) Table 29 of the Arterial Roadway Segment analysis shows that the roadway segment does not have a significant impact.										

- Airway Road between SR-905 and Sanyo Avenue (LOS E without project and LOS F with Units 1-5 of the project – Airway Road is presently closed by Caltrans); and
- State Route 905 between Otay Mesa Road and Siempre Viva Road (LOS E without and with Units 1-5 of the project).

The segments of Interim SR-905 (Otay Mesa Road) between Heritage Road and Britannia Boulevard operate at an unacceptable LOS F under existing without and with Units 1-5 of the proposed project conditions. With the addition of 12,768 ADT from Units 1-5 of the project, the volume-to-capacity (v/c) ratio will be increased by a range of 0.21 to 0.22 and the level of service on these segments of Interim SR-905 (Otay Mesa Road) will continue to operate at LOS F. The increase in v/c exceeds the 0.01 allowed per the City of San Diego's thresholds of significance for a roadway segment operating at LOS F, thus, based on average daily conditions Units 1-5 of the project has a significant direct impact on these segments of Interim SR-905 (Otay Mesa Road). Based on the arterial roadway segment analysis the segments of Interim SR-905 (Otay Mesa Road) between Heritage Road and Britannia Boulevard also operate at an unacceptable LOS E during at least one of the peak hours during at least one direction of travel, thus even based on peak hour levels of operation Units 1-5 of the project is considered to have a significant direct impact on the segments of Interim SR-905 (Otay Mesa Road) between Heritage Road and Britannia Boulevard. See the arterial roadway segment section for more details. See Section IX for a discussion on how the developer will mitigate its significant direct impacts.

The segments of Interim SR-905 (Otay Mesa Road) from Britannia Boulevard to Piper Ranch Road operate at an unacceptable LOS E under existing conditions. With the addition of between 13,406 and 13,512 ADT from Units 1-5 of the project, the v/c ratio will be increased by a range of 0.23 to 0.30 and the level of service on these segments of Interim SR-905 (Otay Mesa Road) will degrade to LOS F. The increase in v/c exceeds the 0.01 allowed per the City of San Diego's thresholds of significance for a roadway segment operating at LOS F, thus, based on average daily conditions Units 1-5 of the project has a significant direct impact on these segments of Interim SR-905 (Otay Mesa Road). However, based on the arterial roadway segment analysis the segments of Interim SR-905 (Otay Mesa Road) between Britannia Boulevard and Piper Ranch Road operate at an acceptable level of service and the project is not considered to have a significant direct impact. See the arterial roadway segment section for more details.

The segment of Interim SR-905 (Otay Mesa Road) between Piper Ranch Road and SR-125 operates at an acceptable LOS C under existing conditions. With the addition of 13,831 ADT from Units 1-5 of the project, the v/c ratio will be increased by 0.24 and the level of service on this segment of Interim SR-905 (Otay Mesa Road) will degrade to LOS E. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F). Since Units 1-5 of the project lowers the existing level of service from LOS C to LOS E, based on average daily conditions, Units 1-5 of the project is considered to have a significant direct impact. However, based on the arterial roadway segment analysis the segment of Interim SR-905 (Otay Mesa Road) between Piper Ranch Road and the SR-125 operates at an acceptable level of service and the project is not considered to have a significant direct impact. See the arterial roadway segment section for more details.

The segment of Otay Mesa Road (Old Otay Mesa Road) between Sanyo Avenue and Enrico Fermi Drive operates at LOS D under existing conditions. With the addition of 18,087 ADT from Units 1-5 of the project, this segment of Otay Mesa Road (Old Otay Mesa Road) will operate at LOS F. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F). Since Units 1-5 of the project lowers the existing level of service from LOS D to LOS F, based on average daily conditions, Units 1-5 of the project is considered to have a significant direct impact on the segment of Otay Mesa Road (Old Otay Mesa Road) between Sanyo Avenue and Enrico Fermi Drive. See Section IX for a discussion on how the developer will mitigate its significant direct impacts.

The segment of Otay Mesa Road (Old Otay Mesa Road) between Enrico Fermi Drive and Alta Road operates at LOS C under existing conditions. With the addition of 10,646 ADT from Units 1-5 of the project, this segment of Otay Mesa Road (Old Otay Mesa Road) will operate at LOS F. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F). Since Units 1-5 of the project lowers the existing level of service from LOS C to LOS F, based on average daily conditions, Units 1-5 of the project is considered to have a significant direct impact on the segment of Otay Mesa Road (Old Otay Mesa Road) between Enrico Fermi Drive to Alta Road. See Section IX for a discussion on how the developer will mitigate its significant direct impacts.

Although based on February 2008 count data, the segment of Airway Road between SR-905 and Sanyo Avenue operates at LOS E under existing conditions. This segment of Airway Road; however, is currently closed to traffic for the construction of the structures at the SR-905/Airway Road intersection. By the time Units 1-5 of the proposed project comes on line this segment of Airway Road is anticipated to be re-opened, thus project traffic is added to the segment of Airway Road between the SR-905 and Sanyo Avenue. With the addition of 958 ADT from Units 1-5 of the proposed project the v/c ratio will be increased by 0.10 and the level of service on this segment of Airway Road will operate at LOS F. The increase in v/c exceeds the 0.01 allowed per the City of San Diego's thresholds of significance for a roadway segment operating at LOS F, thus, based on average daily conditions Units 1-5 of the project has a significant direct impact on the segment of Airway Road between the SR-905 and Sanyo Avenue. See Section IX for a discussion on how the developer will mitigate its significant direct impacts.

The segment of SR-905 between Otay Mesa Road and Siempre Viva Road operates at LOS E under existing without and with Units 1-5 of the project conditions. Since the project is not adding any traffic to this segment the v/c ratio will not be increased with the addition of the project; thus, Units 1-5 of the proposed project is not considered to have a significant impact.

All other roadway segments continue to operate at LOS D or better under existing plus Units 1-5 of the proposed project conditions.

Existing + Project Build-Out (Units 1-5) – Arterial Roadway Segments

A review of the 24 hour counts sheets for Otay Mesa Road, found that the traffic flow is rather constant between the hours of 7:00am to 6:00 pm, compared to most 5-lane and 6-lane roadways which have high peak hour flows in the morning and afternoon. Further it should be noted that the Otay Mesa Port-of-Entry is open 24 hours a day with long lines crossing the border. This results in the spread of vehicles through the day resulting in increased daily traffic volumes. Since level of service based on daily volumes assumes significant increases in traffic counts during the peak hour periods, daily capacity analysis is not particularly accurate for Otay Mesa Road. Therefore, in addition to evaluating the roadway based on daily capacity it was also analyzed based on the Highway Capacity Manual's (HCM) Arterial Segment Methodology utilizing the Synchro software. Since the arterial segment analysis determines level of service based on the average travel speeds that occur on the roadway it provides a more accurate representation of the travel patterns and levels of service for Otay Mesa Road. The results of the analysis are summarized in Table 29.

Based on daily roadway segment capacities summarized in Table 23, Units 1-5 of the project is part of significant impact to the roadway segments of Interim SR-905 (Otay Mesa Road) between Heritage Road and the SR-125. The arterial roadway segment analysis summarized in Table 29, shows that the segments of Interim SR-905 (Otay Mesa Road) between Britannia Boulevard and the SR-125 operates at LOS D or better during both peak hours. Thus, based on peak hour analysis, Units 1-5 of the proposed project is not considered to be part of a significant direct impact on the segments of Interim SR-905 (Otay Mesa Road) between Britannia Boulevard and the SR-125.

Table 29 – Existing + Project Buildout (Units 1-5) Arterial LOS Summary

AM Peak Hour									
Intersection	Jurisdiction	Direction of Travel	Existing (A)		Existing + Units 1-5 (B)			(B) – (A)	
			Speed (mph)	LOS	Speed (mph)	LOS	Δ Speed	Sig. Impact	
Interim SR-905 - Heritage Rd. to Cactus Rd.	City/Caltrans	EB	35.3	A	16.7	E	(18.6)	Yes	
		WB	31.2	B	30.2	B	(1.0)		
Interim SR-905 - Cactus Rd. to Britannia Blvd.	City/Caltrans	EB	32.1	B	13.1	E	(19.0)	Yes	
		WB	38.9	A	38.9	A	0.0		
Interim SR-905 - Britannia Blvd. to La Media Rd.	City/Caltrans	EB	42.6	A	37.1	A	(5.5)	No	
		WB	43.6	A	43.2	A	(0.4)		
Interim SR-905 - La Media Rd. to Piper Ranch Rd.	City/Caltrans/ County	EB	38.5	A	20.5	D	(18.0)	No	
		WB	33.0	B	32.0	B	(1.0)		
Interim SR-905 - Piper Ranch Rd to SR125	City/Caltrans/ County	EB	34.0	B	20.5	D	(13.5)	No	
		WB	29.5	B	26.8	C	(2.7)		
PM Peak Hour									
Intersection	Jurisdiction	Direction of Travel	Existing (A)		Existing + Units 1-5 (B)			(B) – (A)	
			Speed (mph)	LOS	Speed (mph)	LOS	Δ Speed	Sig. Impact	
Interim SR-905 - Heritage Rd. to Cactus Rd.	City/Caltrans	EB	29.3	B	30.7	B	1.4	Yes	
		WB	24.4	C	15.4	E	(9.0)		
Interim SR-905 - Cactus Rd. to Britannia Blvd.	City/Caltrans	EB	36.1	A	32.4	B	(3.7)	No	
		WB	38.2	A	33.1	B	(5.1)		
Interim SR-905 - Britannia Blvd. to La Media Rd.	City/Caltrans	EB	35.4	A	33.5	B	(1.9)	No	
		WB	39.4	A	33.0	B	(6.4)		
Interim SR-905 - La Media Rd. to Piper Ranch Rd.	City/Caltrans/ County	EB	38.1	A	36.0	A	(2.1)	No	
		WB	28.3	B	18.2	D	(10.1)		
Interim SR-905 - Piper Ranch Rd to SR125	City/Caltrans/ County	EB	35.8	B	30.8	B	(5.0)	No	
		WB	34.2	B	30.7	B	(3.5)		
LOS=Level of Service; Speed is measured in miles per hour (mph); sig=signalized; Δ Speed = Increase (decrease) in speed; SBX = South Bay Expressway. Occasionally adding traffic to a critical movement optimizes the segment resulting in increase in speed.									

LOS=Level of Service; Speed is measured in miles per hour (mph); sig=signalized; Δ Speed = Increase (decrease) in speed;

SBX = South Bay Expressway, Occasionally adding traffic to a critical movement optimizes the segment resulting in increase in speed.

The segments of Interim SR-905 (Otay Mesa Road) between Heritage Road and Britannia Boulevard operate at LOS E during at least one of the peak hours during at least one direction of travel under existing plus Units 1-5 of the project conditions. Thus, Units 1-5 of the proposed project is considered to be a significant part of the direct impacts based on daily and peak hour analysis on the segments of Interim SR-905 (Otay Mesa Road) between Heritage Road and Britannia Boulevard. See Section IX for a discussion on how the developer will mitigate its significant direct impacts. A copy of the Synchro worksheets can be found in Appendix D and I.

Existing + Project Build-Out (Units 1-5) – Intersections

Existing + Project Build-Out (Units 1-5) – Synchro Analysis

Table 30 summarizes the existing plus Units 1-5 project conditions intersection level of service summary during the AM and PM peak hours. (A copy of the Synchro worksheets can be found in Appendix D and I.) As shown in Table 30, the following intersections operate at LOS E or F during at least one of the peak hours under existing plus Units 1-5 project conditions:

- Interim SR-905 (Otay Mesa Road)/Heritage Road (LOS C without project and LOS F during the AM peak hour with Units 1-5 of the project);
- Interim SR-905 (Otay Mesa Road)/Britannia Boulevard (LOS B without project and LOS E during the AM peak hour with Units 1-5);
- Otay Mesa Road/Interim SR-905 Connector (LOS C or better without project and LOS F with Units 1-5 of the project);
- Otay Mesa Road (Old Otay Mesa Road)/Sanyo Avenue (LOS B without the project and LOS F during the PM peak hour with Units 1-5 of the project);
- Otay Mesa Road (Old Otay Mesa Road)/Enrico Fermi Drive (LOS B or better without project and LOS F with Units 1-5 of the project); and
- Otay Mesa Road (Old Otay Mesa Road)/Alta Road (Total intersection operates at LOS B or better without the project and LOS F during both peak hours with Units 1-5 of the project).

The Interim SR-905 (Otay Mesa Road)/Heritage Road intersection operates at LOS C during the AM peak hour under existing conditions. With the addition of 1,713 AM peak hour trips from Units 1-5 of the project the AM peak hour delay will be increased by 54.5 seconds degrading the existing LOS to LOS F. The increase in delay exceeds the one (1) second allowed per the City of San Diego's thresholds of significance for an intersection operating at LOS F, thus Units 1-5 of the project has a significant direct impact on the Interim SR-905 (Otay Mesa Road)/Heritage Road intersection. See Section IX for a discussion on how the developer will mitigate its significant direct impact.

The Interim SR-905 (Otay Mesa Road)/Britannia Boulevard intersection operates at LOS B during the AM peak hour under existing conditions. With the addition of 1,771 AM peak hour trips from Units 1-5 of the project the AM peak hour delay will be increased by 50.1 seconds degrading the existing LOS to LOS E. The increase in delay exceeds the two (2) seconds allowed per the City of San Diego's thresholds of significance for an intersection operating at LOS E, thus Units 1-5 of the project has a significant direct impact on the Interim SR-905 (Otay Mesa Road)/Britannia Boulevard intersection. See Section IX for a discussion on how the developer will mitigate its significant direct impact.

Table 30 - Existing + Project Build Out (Units 1-5) Intersection Level of Service Summary																		
Intersections	Jurisdiction	Traffic Control	Critical Move	Existing				Existing + Project Build Out (Units 1-5)										
				AM Peak		PM Peak		AM Peak			PM Peak							
				Delay	LOS	Delay	LOS	Delay	LOS	Proj. Trips	Δ Delay	Sig.	Delay	LOS	Proj. Trips	Δ Delay	Sig.	
Otay Mesa Rd (E-W) @ Heritage Rd (N-S)	City/Caltrans	Sig.	Int	30.1	C	29.2	C	84.6	F	1,713	54.5	Yes			D	1,812	25.6	No
Otay Mesa Rd (E-W) @ Cactus Rd (N-S)	City/Caltrans	Sig.	Int	8.9	A	11.5	B	49.1	D	1,713	40.2	No			B	1,812	2.4	No
Otay Mesa Rd (E-W) @ Britannia Blvd (N-S)	City/Caltrans	Sig.	Int	10.3	B	18.8	B	60.4	E	1,771	50.1	Yes			C	1,872	9.2	No
Otay Mesa Rd (E-W) @ La Media Rd (N-S)	City/Caltrans	Sig.	Int	14.1	B	27.0	C	18.8	B	1,828	4.7	No			D	1,932	17.7	No
Otay Mesa Rd (E-W)@ Piper Ranch Rd (N-S)	County/City/Caltrans	Sig.	Int	6.1	A	3.6	A	31.5	C	1,854	25.4	No			A	1,961	1.5	No
Otay Mesa Rd (E-W) @ SR-125 SB (N-S)	County/City/SBX	Sig.	Int	11.2	B	2.5	A	15.9	B	2,293	4.7	No			A	2,150	3.0	No
Otay Mesa Rd (E-W) @ SR-125 NB (N-S)	County/City/SBX	Sig.	Int	0.9	A	5.6	A	5.7	A	2,424	4.8	No			D	2,564	30.0	No
Otay Mesa Rd (E-W) @ SR-905 (N-S)	County/City/SBX	Sig.	Int	16.1	B	21.1	C	128.5	F	2,425	112.4	Yes			F	2,564	152.4	Yes
Otay Mesa Rd (E-W) @ Sanyo Av (N-S)	County/City	Sig.	Int	4.1	A	12.6	B	31.0	C	2,425	26.9	No			F	2,564	287.3	Yes
Otay Mesa Rd (E-W) @ Enrico Fermi Dr (N-S)	County	Sig.	Int	10.4	B	9.4	A	569.2	F	2,457	558.8	Yes			F	2,670	271.3	Yes
Otay Mesa Rd (E-W) @ Alta Rd (N-S)	County	AWSC	EB	32.5	D	9.8	A	865.3	F	1,097	832.8				F	474	348.7	Yes
			WB	0.0	A	0.0	A	11.9	B	144	11.9			F	392	143.0		
			NB	9.3	A	8.2	A	14.5	B	187	5.2	Yes		F	645	489.5		
			SB	9.8	A	18.3	C	12.1	B	0	2.3			F	0	500.6		
			Int	27.6	D	17.2	C	672.1	F	1,428	644.5			F	1,511	393.6		
Airway Rd (E-W) @ La Media Rd (N-S)	City	AWSC	EB	11.1	B	14.5	B	11.3	B	0	0.2				C	0	1.7	No
			WB	10.9	B	13.9	B	11.8	B	33	(0.1)			C	104	6.9		
			NB	11.4	B	15.4	C	11.8	B	0	0.4	No		C	0	2.1		
			SB	13.3	B	12.2	B	13.9	B	0	0.6			B	0	1.3		
				12.3	B	13.9	B	12.8	B	33	0.5			C	104	3.2		
LOS=Level of Service; Delay is measured in seconds/vehicle; sig=signalized; AWSC=All Way Stop Controlled; TWSC = Two-Way Stop-Controlled; OWSC=One Way Stop Controlled; Int = Intersection; NB = Northbound Approach; SB = Southbound Approach; EB = Eastbound Approach; WB = Westbound Approach; SBX = South Bay Expressway; E-W = East-West Roadway; N-S = North-South Roadway; Bold = Jurisdiction which significance criteria is based on A Delay = Increase (decrease) in delay; Occasionally adding traffic to a critical movement optimizes the intersection resulting in a decrease in delay																		

LOS=Level of Service; Delay is measured in seconds/vehicle; sig=signalized; AWSC=All Way Stop Controlled; TWSC = Two-Way Stop Controlled; OWSC=One Way Stop Controlled;
Int = Intersection; NB = Northbound Approach; SB = Southbound Approach; EB = Eastbound Approach; WB = Westbound Approach;
SBX = South Bay Expressway; E-W = East-West Roadway; N-S = North-South Roadway; **Bold** = Jurisdiction which significance criteria is based on
Δ Delay = Increase (decrease) in delay; Occasionally adding traffic to a critical movement optimizes the intersection resulting in a decrease in delay

Table 30 (Continued) - Existing + Project Build Out (Units 1-5) Intersection Level of Service Summary

Intersections	Jurisdiction	Traffic Control	Critical Move	Existing						Existing + Project Build Out (Units 1-5)					
				AM Peak			PM Peak			AM Peak			PM Peak		
				Delay	LOS		Delay	LOS		Delay	LOS	Proj. Trips	Δ Delay	Sig.	
Airway Rd (E-W) @ Sanyo Av (N-S)	City	AWSC	EB	10.1	B		9.9	A		11.7	B	44	1.6		
			WB	8.1	A		9.1	A		9.1	A	61	1.0		
			NB	8.0	A		9.2	A		8.5	A	0	0.5	No	No
			SB	9.6	A		8.0	A		11.6	B	44	2.0		
			Int	9.3	A		9.1	A		10.8	B	149	1.5		
Airway Rd (E-W) @ Paseo De Las Americas (N-S)	County/City	OWSC	NB	9.7	A		10.6	B		11.0	B	0	1.3	No	No
Airway Rd (E-W) @ Michael Faraday (N-S)	County/City	OWSC	NB	9.6	A		9.6	A		10.5	B	0	0.9	No	No
Airway Rd (E-W) @ Enrico Fermi Dr (N-S)	County/City	Sig.	Int	6.6	A		13.0	B		30.8	C	1,457	24.2	No	No
Siempre Viva Rd (E-W) @ La Media Rd (N-S)	City	AWSC	EB	8.0	A		8.4	A		8.1	A	0	0.1		
			WB	7.8	A		8.5	A		7.9	A	0	0.1		
			NB	7.6	A		8.4	A		7.6	A	0	0.0	No	No
			SB	9.8	A		11.0	B		10.3	B	33	0.5		
			Int	9.2	A		9.9	A		9.6	A	33	0.4		
Siempre Viva Rd (E-W) @ SR-905 SB off to Siempre Viva EB (N-S)	Caltrans	Sig.	Int	7.0	A		8.5	A		7.7	A	33	0.7	No	No
Siempre Viva Rd (E-W) @ SR-905 SB off to Siempre Viva WB (N-S)	Caltrans	OWSC	SB	14.3	B		13.3	B		14.7	B	0	0.4	No	No
Siempre Viva Rd (E-W) @ SR-905 NB Ramp (N-S)	Caltrans	Sig.	Int	10.8	B		11.0	B		10.4	B	142	(0.4)	No	No
Siempre Viva Rd (E-W) @ Paseo De Las Americas (N-S)	City	Sig.	Int	24.7	C		40.0	D		24.3	C	142	(0.4)	No	No
Siempre Viva Rd (E-W) @ Michael Faraday (N-S)	City	TWSC	NB	14.5	B		13.2	B		17.4	C	0	2.9	No	No
Siempre Viva Rd (E-W) @ Enrico Fermi Dr (N-S)	County/City	Sig.	Int	12.6	B		13.7	B		12.7	B	251	0.1	No	No
Alta Rd (N-S) @ Paseo De La Fuente (E-W)	County	Sig.	Int	2.7	A		12.6	B		2.2	A	0	(0.5)	No	No

LOS=Level of Service; Delay is measured in seconds/vehicle; sig=signalized; AWSC=All Way Stop Controlled; TWSC = Two-Way Stop-Controlled; OWSC=One Way Stop Controlled;

Int = Intersection; NB = Northbound Approach; SB = Southbound Approach; EB = Eastbound Approach; WB = Westbound Approach;

SBX = South Bay Expressway; E-W = East-West Roadway; N-S = North-South Roadway; **Bold** = Jurisdiction which significance criteria is based on

Δ Delay = Increase (decrease) in delay; Occasionally adding traffic to a critical movement optimizes the intersection resulting in a decrease in delay

The Otay Mesa Road/Interim SR-905 Connector intersection operates at LOS B during the AM peak hour and LOS C during the PM peak hour under existing conditions. With the addition of 2,425 AM peak hour trips from Units 1-5 of the project, the AM peak hour delay will be increased by 112.4 seconds degrading the existing LOS to LOS F. With the addition of 2,564 PM peak hour trips from Units 1-5 of the project, the PM peak hour delay will be increased by 152.4 seconds degrading the existing LOS to LOS F. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F). Since the proposed project lowers the existing level of service from an acceptable LOS C or better to an unacceptable LOS F, Units 1-5 of the proposed project is considered to have a significant direct impact at the Otay Mesa Road/Interim SR-905 Connector intersection. See Section IX for a discussion on how the developer will mitigate its significant direct impact.

The Otay Mesa Road (Old Otay Mesa Road)/Sanyo Avenue intersection operates at LOS A during the AM peak hour and LOS B during the PM peak hour under existing conditions. With the addition of 2,668 PM peak hour trips from Units 1-5 of the project to the intersection, the intersection will degrade to LOS F. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F). Thus, per the PFE Units 1-5 of the project is considered to have a significant direct impact at the Otay Mesa Road (Old Otay Mesa Road)/Sanyo Avenue intersection. See Section IX for a discussion on how the developer will mitigate its significant direct impacts.

The Otay Mesa Road (Old Otay Mesa Road)/Enrico Fermi Drive intersection operates at LOS B during the AM peak hour and LOS A during the PM peak hour under existing conditions. With the addition of 2,457 AM peak hour trips and 2,670 PM peak hour trips from Units 1-5 of the project, the AM peak hour delay will be increased by 558.8 seconds and the PM peak hour delay will be increased by 271.3 seconds degrading the existing LOS to LOS F during both peak hours. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F). Since the proposed project lowers the existing level of service from an acceptable LOS B or better to an unacceptable LOS F, Units 1-5 of the proposed project is considered to have a significant direct impact at the Otay Mesa Road (Old Otay Mesa Road)/Enrico Fermi Drive intersection. See Section IX for a discussion on how the developer will mitigate its significant direct impact.

The Otay Mesa Road (Old Otay Mesa Road)/Alta Road intersection currently operates at LOS D during the AM peak hour and LOS C during the PM peak hour overall. With the addition of 1,428 AM peak hour trips (1,097 to the eastbound approach) from Units 1-5 of the project, the eastbound approach and overall intersection will degrade to LOS F. With the addition of 1,511 PM peak hour trips (645 to the northbound approach) from Units 1-5 of the project all approaches and the overall intersection will degrade to LOS F. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F). Thus, per the PFE Units 1-5 of the project is considered to have a significant direct impact at the Otay Mesa Road (Old Otay Mesa Road)/Alta Road intersection. See Section IX for a discussion on how the developer will mitigate its significant direct impacts.

All other intersections continue to operate at LOS D or better under existing plus Units 1-5 project conditions.

Existing + Project Build-Out (Units 1-5) – ILV Analysis

Table 31 summarizes the existing without and with project conditions intersection ILV analysis. As shown in Table 31, the Otay Mesa Road/SR-125 SB Ramp, Siempre Viva Road/SR-905 Southbound to Eastbound Siempre Viva Road and Siempre Viva Road/SR-905 Northbound Ramp operates under stable flow during the AM and PM peak hours under existing without and with project conditions. All other intersections operate under unstable flow or at over capacity. A copy of the ILV worksheets can be found in Appendix I.

The Otay Mesa Road/Heritage Road currently operates under stable flow during both the AM and PM peak hours. With addition to Units 1-5 of the project the Otay Mesa Road/Heritage Road intersection operate at over capacity during the AM and under unstable flow during the PM peak hour.

The Otay Mesa Road/Cactus Road, Otay Mesa Road/Britannia Boulevard and Otay Mesa Road/SR-125 Northbound Ramp currently operates under stable flow during both the AM and PM peak hours. With addition to Units 1-5 of the project the Otay Mesa Road/Cactus Road, Otay Mesa Road/Britannia Boulevard and Otay Mesa Road/SR-125 Northbound Ramp intersections operate under unstable flow during both the AM and PM peak hours.

The Otay Mesa Road/La Media Road currently operates under stable flow during both the AM and PM peak hours. With addition to Units 1-5 of the project the Otay Mesa Road/La Media Road intersection operates under stable flow during the AM peak hour and unstable flow during the PM peak hour.

The Otay Mesa Road/Piper Ranch Road currently operates under stable flow during both the AM and PM peak hours. With addition to Units 1-5 of the project the Otay Mesa Road/Piper Ranch Road intersection operate under unstable flow during both the AM peak hour and stable flow during the PM peak hour.

The Otay Mesa Road/SR-905 Connector currently operates under stable flow during both the AM and PM peak hours. With addition to Units 1-5 of the project the Otay Mesa Road/SR-905 Connector intersection operates at over capacity during both the AM and PM peak hours.

Table 31 – Existing + Project Build-Out (Units 1-5) ILV Analysis								
Intersection	Existing				Existing + Project Build-Out (Units 1-5)			
	AM Peak Hour		PM Peak Hour		AM Peak		PM Peak	
	ILV/Hr	Operating Condition	ILV/Hr	Operating Condition	ILV/Hr	Operating Condition	ILV/Hr	Operating Condition
Otay Mesa Rd (E-W) @ Heritage Rd (N-S)	1,115	Stable Flow	1,049	Stable Flow	1,554	Over Capacity	1,464	Unstable Flow
Otay Mesa Rd (E-W) @ Cactus Rd (N-S)	1,129	Stable Flow	1,055	Stable Flow	1,490	Unstable Flow	1,415	Unstable Flow
Otay Mesa Rd (E-W) @ Britannia Blvd (N-S)	708	Stable Flow	936	Stable Flow	1,244	Unstable Flow	1,350	Unstable Flow
Otay Mesa Rd (E-W) @ La Media Rd (N-S)	740	Stable Flow	924	Stable Flow	1,200	Stable Flow	1,346	Unstable Flow
Otay Mesa Rd (E-W) @ Piper Ranch Rd (N-S)	696	Stable Flow	766	Stable Flow	1,406	Unstable Flow	1,072	Stable Flow
Otay Mesa Rd (E-W) @ SR-125 SB (N-S)	701	Stable Flow	677	Stable Flow	1,003	Stable Flow	1,088	Stable Flow
Otay Mesa Rd (E-W) @ SR-125 NB (N-S)	417	Stable Flow	754	Stable Flow	1,279	Unstable Flow	1,427	Unstable Flow
Otay Mesa Rd (E-W) @ SR-905 Connector (N-S)	700	Stable Flow	911	Stable Flow	1,632	Over Capacity	1,791	Over Capacity
Siempre Viva (E-W) @ SR-905 SB to EB Siempre Viva (N-S)	363	Stable Flow	463	Stable Flow	391	Stable Flow	593	Stable Flow
Siempre Viva (E-W) @ SR-905 NB Ramp (N-S)	372	Stable Flow	483	Stable Flow	383	Stable Flow	537	Stable Flow
ILV/Hour = Intersecting Lane Vehicles Per Hour; <1,200 ILV/Hour = Stable Flow; 1,200 - 1,500 ILV/Hour = Unstable Flow; 1,500 ILV/Hour = Capacity, Stop and Go Operation E-W = East-West Roadway; N-S = North-South Roadway								

SECTION V – CUMULATIVE (YEAR 2020) CONDITIONS

APPROVED/PENDING PROJECTS

In discussions with the County of San Diego, it was determined that the impacts of cumulative development, caused by placing all cumulative trips on the network at one time, exceeded the rate of the real estate market to potentially absorb developed industrial land. The County's decision was based on a review of the December 15, 2006 *Addendum to Real Estate Market Analysis*, which was prepared by Economics Research Associates (ERA) for the City of San Diego during the preparation of the Otay Mesa Community Plan. The percentage of development that could be expected by the year 2020 was estimated by taking the total industrial acreage forecast for the unincorporated County portion of the East Otay Mesa area between 2006 and 2020, based on the high scenario growth rate (or 135 acres), divided by the total acreage of industrial subdivisions proposed in the County (or 1,068 acres). A copy of excerpts from the ERA market forecast is provided in Appendix B.

In the unincorporated County of San Diego, there are seventeen (17) cumulative projects, including many large-scale subdivisions and the proposed project, which are located in the Otay Mesa Specific Plan Area. The methodology used to apply the ERA market analysis was as follows:

- Traffic generated by projects processed as Major Use Permits, Interim Use Permits, and Site Plans would be applied at 100% of their planned development capacity by the year 2020. Nine (9) of the seventeen (17) approved/pending projects met that criteria and marketing assumptions in the ERA analysis and were applied to this group of projects.
- Traffic generated by projects processed as subdivisions (Tentative Maps, Tentative Parcel Maps) would be applied at a reduced percentage of the planned development capacity by the year 2020. The reduced percentage was based on market absorption data in the ERA market study. This group included the remaining eight (8) approved/pending projects. The County estimated that these eight (8) projects, based on the market absorption factors described above, could reasonably develop a calculated percentage of the total acreage available for future development. This percentage was determined to be approximately 13% of their total development capacity by the year 2020. Thus the cumulative traffic volumes attributed to these large subdivisions was factored at 13% of total traffic volumes.

This methodology presents a more reasonable approach to cumulative traffic analysis by recognizing the real-estate/market-absorption factors that influence the rate at which industrial land is subdivided and made fully operational by development and therefore the cumulative traffic impacts realized. This methodology also takes into consideration the fact that developers must process a second permit, called a Site Plan, before development can occur within subdivisions located in the East Otay Mesa Specific Plan Area. The County will monitor market trends and the level of development in the East Otay Mesa area to ensure that the assumptions utilized above remain valid and reasonable. In addition, the cumulative project list will be updated, as appropriate, when Site Plans are submitted to the County. Traffic generated by projects with Site Plans would then be applied at 100%.

Table 32 summarizes the list of approved/pending projects and identifies which ones were assumed by the County of San Diego to be developed at 100% or 13% of its planned development by the year 2020. Figure 17 illustrates the location of the approved/pending projects in the Otay Mesa area of the County of San Diego. As shown in Table 32, the approved/pending projects within the County of San Diego are estimated to generate a total of approximately 155,932 average daily trips, of which, approximately 52,045 ADT are anticipated to be added to the roadway network by the year 2020.

Table 32 – Summary of Approved/Pending Projects in County of San Diego

Map ID #	Project Name	County Project #	Project Location	# Acres	Land Use	Trip Generation	
						Total ADT	% Cumulative Traffic applied to year 2020
							% ADT
Project's Processing Site Plans							
1	California Crossings	P06-102 TPM 21046	NW Corner of Otay Mesa Rd & Harvest Rd	29.6 Acres	325,502 ksf of Community Shopping Ctr	22,785	100%
2	CCA San Diego Correctional Facility	MPA 09-029 P 06-074	n/o Calzada De La Fuente, e/o Alta Rd	37.0 Acres	2,132 Bed Correctional Detention Facility	2,323	100%
3	COPART County Sales Yard Time Extension (a)	P 88-020W1	SW Corner of Otay Mesa Rd & Alta Rd	38.2 Acres	Auto Auction	846	100%
4	FEDEX Site Plan	S08-018	NE Corner of Airway Rd & Paseo De Las Americas	18.9 Acres	FEDEX Distribution Center	1,598	100%
5	Insurance Auto Auctions	P00-012TE	NW Corner of Otay Mesa Rd & Alta Rd	38.2 Acres	Auto Auction	354	100%
6	Salvage Yards/ National Enterprises Recycling	P 98-001	East & West Side of Alta Rd, n/o Otay Mesa Rd	162.0 Acres	Auto Recycling & Salvage Yards	2,408	100%
7	Sunroad Interim Uses -Sunroad Centre I Harvest Ranch Nursery	P 09-009 P 09-005	n/o Otay Mesa Rd btwn Harvest Rd & Vann Centre Blvd	138.0 Acres	Nursery	14	100%
8	Travel Plaza	P 98-024W1 TPM 20414	e/o Enrico Fermi Drive, btwn Otay Mesa Rd & Airway Rd	83.6 Acres	Truck Stop	5,116	100%
9	Vulcan	S 07-038	NE quadrant of Lone Star Rd (Paseo De La Fuente) & Otay Mesa Rd	12.7 Acres	Asphalt & Concrete Plant	1,078	100%
			Sub-Total:	558.2 Acres		36,522	100%
Project's Processing Tentative Maps							
10	International Industrial Park	TM 5549	n/o Lone Star Rd btwn Vann Centre Blvd & e/o Enrico Fermi Dr	170.6 Acres	111.05 Net Acres Business/Technology Park	13,326	13%
11	OMC Properties	TPM 21140	NE Corner of Otay Mesa Rd & Alta Rd	49.8 Acres	30.1 Acres Technology Business Park & 8.4 Acres Commercial Retail	9,380	13%
12	Otay Business Park	TM 5505	s/o Airway Rd, East of Alta Rd	161.6 Acres	2092.9 ksf of Industrial/ Business Park	33,486	13%
13	Otay Crossings Commerce Park	TM 5405 SPA 04-006	SE Quadrant of Otay Mesa Rd & Alta Rd	311.4 Acres	Mixed Industrial & Temporary Truck Parking	21,279	13%
14	Sunroad/Otay Tech Centre	SPA 07-003 TM 5538	n/o Otay Mesa Rd btwn Harvest Rd & Vann Centre Blvd	253.1 Acres	130 Acres Technology Business Park & 27 Acres Commercial Retail	30,566	13%
15	Piper Otay Park	TM 5527	NE quadrant of Otay Mesa Rd & Piper Ranch Rd	25.0 Acres	Light Industrial	1,612	13%
16	South County Commerce Centre	TM 5394R	SW Corner of Otay Mesa Rd & Enrico Fermi Dr	80.0 Acres	Industrial	7,159	13%
17	Saeed Revised Map	TM 5304R	n/o Airway Rd btwn Paseo De Las Americas & Michael Faraday Dr	16.1 Acres	Industrial	2,602	13%
			Sub-Total:	1,067.6 Acres		119,410	13%
			Grand-Total:	1,625.8 Acres		155,932	-

(a) Existing Interim Use processing a time Extension

NW = Northwest; NE = Northeast; SE = Southeast; n/o = north of; s/o = south of; e/o = East of; btwn = between

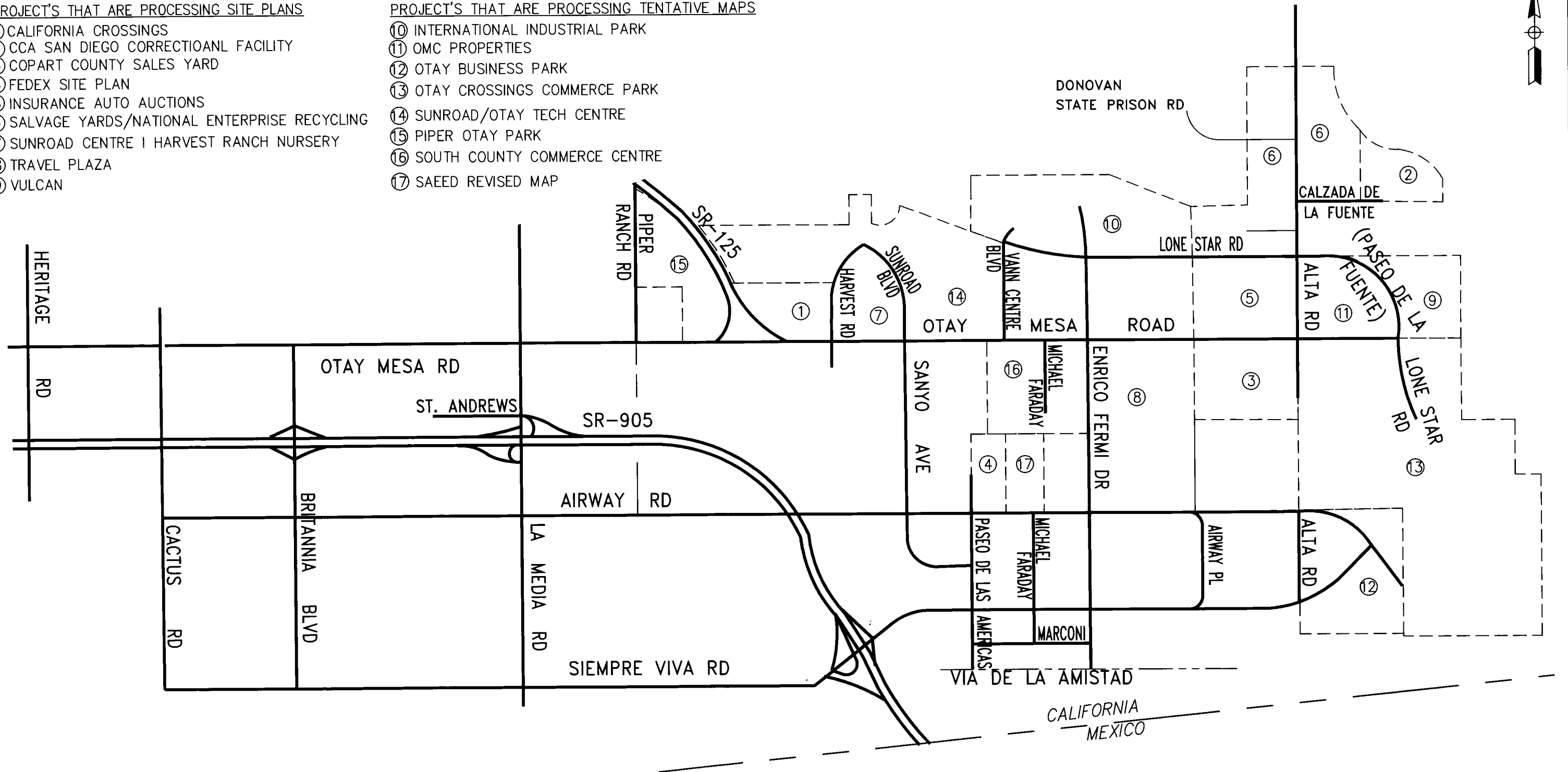
LIST OF CUMMULATIVE PROJECTS

PROJECT'S THAT ARE PROCESSING SITE PLANS

- ① CALIFORNIA CROSSINGS
- ② CCA SAN DIEGO CORRECTIOANL FACILITY
- ③ COPART COUNTY SALES YARD
- ④ FEDEX SITE PLAN
- ⑤ INSURANCE AUTO AUCTIONS
- ⑥ SALVAGE YARDS/NATIONAL ENTERPRISE RECYCLING
- ⑦ SUNROAD CENTRE I HARVEST RANCH NURSERY
- ⑧ TRAVEL PLAZA
- ⑨ VULCAN

PROJECT'S THAT ARE PROCESSING TENTATIVE MAPS

- ⑩ INTERNATIONAL INDUSTRIAL PARK
- ⑪ OMC PROPERTIES
- ⑫ OTAY BUSINESS PARK
- ⑬ OTAY CROSSINGS COMMERCE PARK
- ⑭ SUNROAD/OTAY TECH CENTRE
- ⑮ PIPER OTAY PARK
- ⑯ SOUTH COUNTY COMMERCE CENTRE
- ⑰ SAEED REVISED MAP



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FIGURE 17
LOCATION OF APPROVED/PENDING
PROJECT IN EAST OTAY MESA

APPROVED/PENDING PROJECTS ACCESS

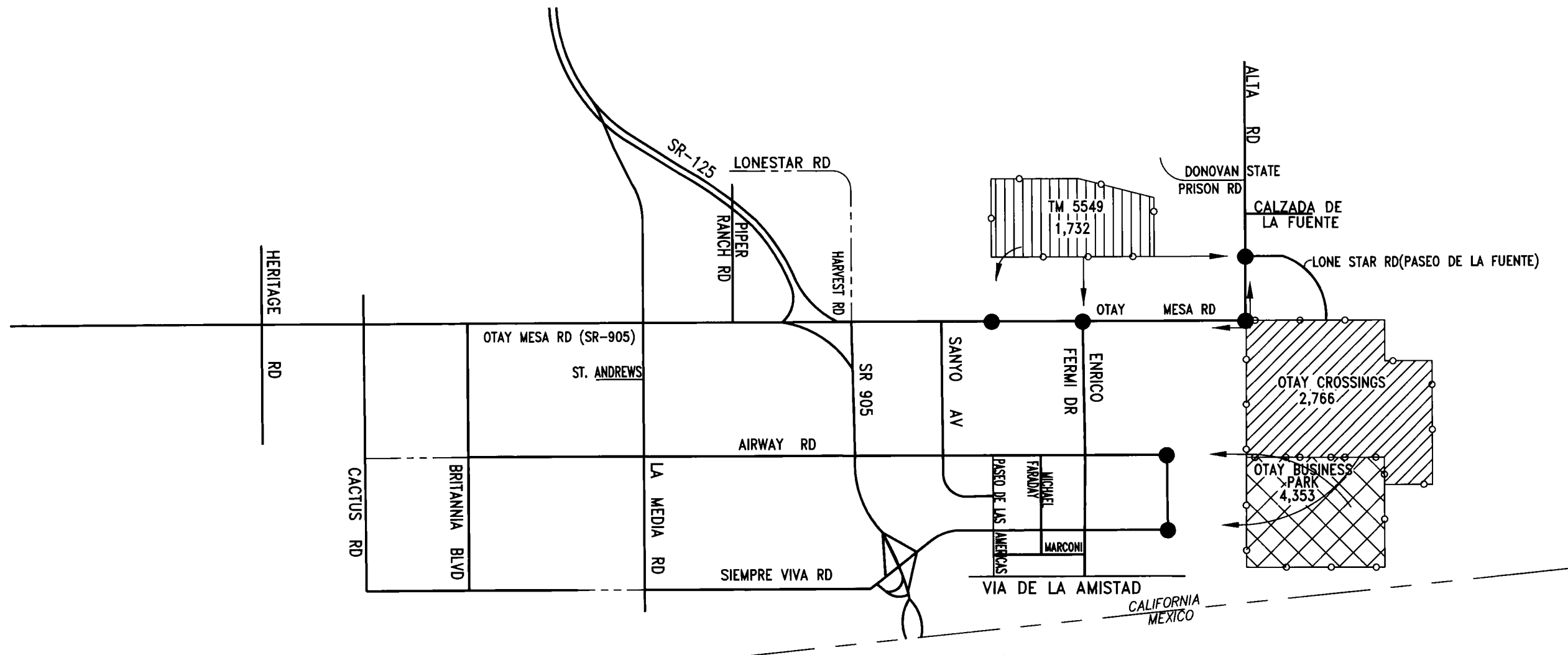
Three (3) of the approved/pending projects listed in Table 16: (1) International Industrial Park, TM 5549 (2) Otay Business Park, TM 5505; and (3) Otay Crossings Commerce Park, TM 5405 do not have project frontage along existing roadways. Thus, in order to include the traffic generated by these projects in the cumulative analysis some assumptions have to be made as to how the traffic associated with each of these projects would get to/from the existing roadway network. Figure 18 provides an illustration of the assumed points of access for each of these projects.

Each project's traffic will be assigned to the network presented on Figure 18. As each project is processed it will identify the facilities needed to accommodate its development and pay the County's Traffic Impact Fees (TIF) to mitigate cumulative impacts. It should be noted, that as illustrated in Figure 18, the extension of Airway Road and Siempre Viva Road east of Airway Place are only needed to provide access to the Otay Business Park (TM 5505) project and no other approved/pending projects traffic were assigned to these roadway segments under cumulative (2020) conditions.

CUMULATIVE (YEAR 2020) WITH SR-905 1A &1B ROADWAY CONDITIONS

In addition to the roads that will be required to be constructed to provide access to the (1) International Industrial Park, TM 5549; (2) Otay Business Park, TM 5505; and (3) Otay Crossings Commerce Park, TM 5405 projects as described above, the development of several of the approved/pending projects listed in Table 32 will also result in the construction/modifications of existing intersections or roadway improvements in order to provide access to the project site. It is reasonable to assume the completion of the intersections modifications and roadway improvements because the cumulative projects associated with the improvements could not open without the completion of the assumed improvements. Since all the cumulative projects were assumed to be constructed by the year 2020, the following new roadway facilities and intersection modifications within the County of San Diego were assumed to be constructed under the cumulative conditions. The roadway conditions listed here are based on the pending projects constructing facilities required for their development.

- SR-905 Phases 1A & 1B were assumed to be completed and operational. See Section I for more details on the description of Phases 1A &1B of SR-905.
- The Interim Signalized SR-905 Intersection at Otay Mesa (Old Otay Mesa Road) will be removed upon opening of Phase 1A of SR-905.
- The segment of Interim SR-905 between Otay Mesa Road and Airway Road will be removed upon opening of Phase 1A of SR-905.
- Old Otay Mesa Road between Alta Road and Lone Star Road (Paseo De La Fuente) (currently a dirt road) will be built to the standards of a Light Collector (provides access for the following cumulative projects: Vulcan Materials [cumulative traffic assumed at 100%] and Otay Crossing Commerce Park [cumulative traffic assumed at 13%]);
- Airway Road between Airway Place and Siempre Viva Road (currently does not exist) will be built to the equivalence of a Light Collector to provide two (2) travel lanes (provides access for the following cumulative project: Otay Business Park [cumulative traffic assumed at 13%] without this roadway there would be no access to the Otay Business Park project);
- Siempre Viva Road between the CHP entrance east of Enrico Fermi Drive and Airway Place (currently only provides 2 westbound travel lanes) will be improved to the standards of a Light Collector Road (provides access for the following cumulative project: Otay Business Park [cumulative traffic assumed at 13%] without this roadway there would be no access to the Otay Business Park project);



LEGEND

- - CONNECTION POINT FOR CUMULATIVE PROJECTS
- - EXISTING DIRT ROAD
- - EXISTING PAVED ROADWAY FACILITY
- - CUMULATIVE PROJECTS BOUNDARY

NOTE: ADT'S REPRESENT THE TRAFFIC GENERATED BY APROXIMATELY 13% OF THE DEVELOPMENT

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FIGURE 18

PROPOSED METHOD OF CONNECTING CUMULATIVE PROJECT
TRAFFIC TO EXISTING CIRCULATION SYSTEM

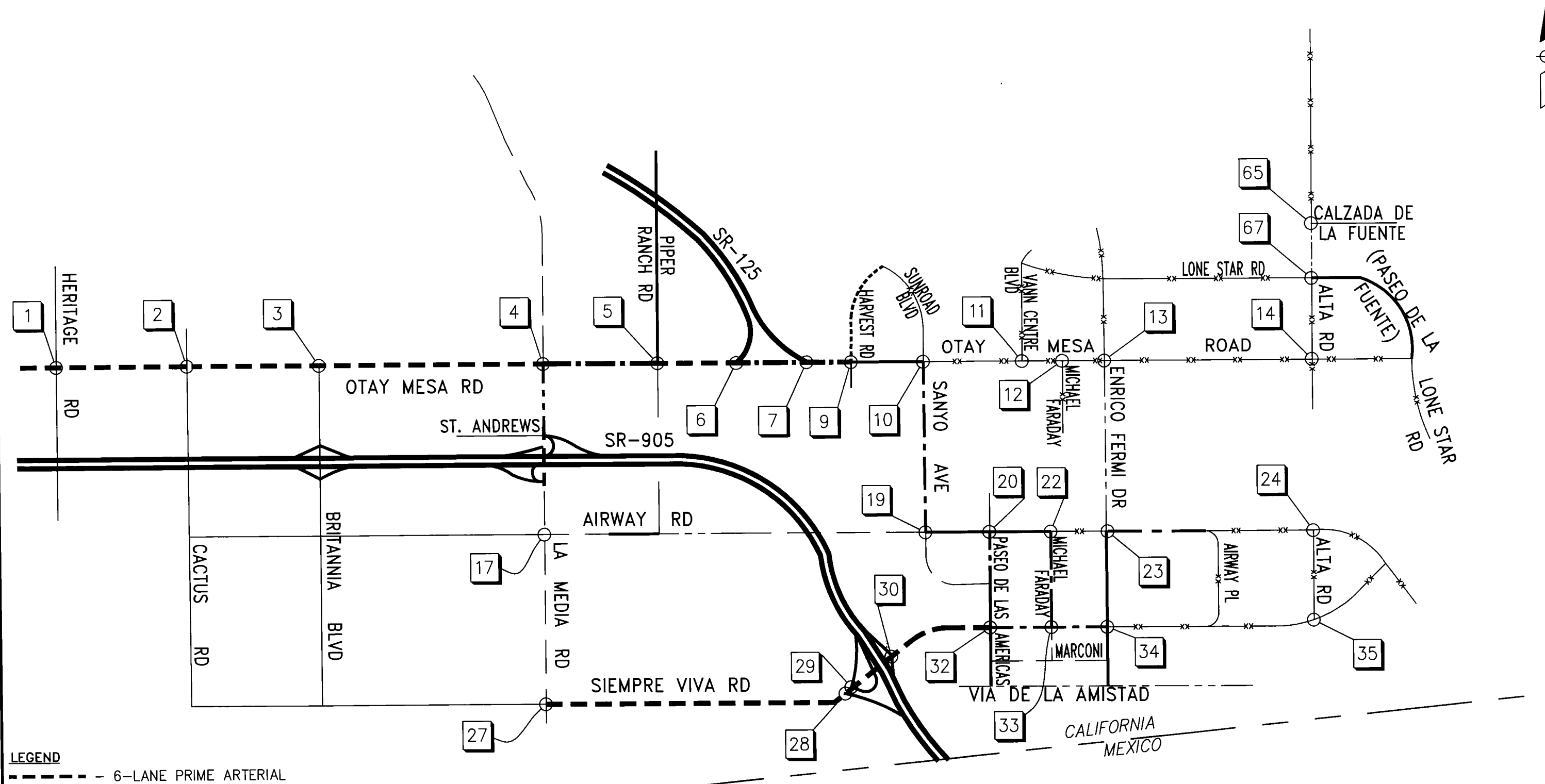
- Siempre Viva Road between Airway Place and Lone Star Road (currently does not exist) will be built to the equivalence of a Light Collector Road (provides access for the following cumulative project: Otay Business Park [cumulative traffic assumed at 13%] without this roadway there would be no access to the Otay Business Park project);
- Harvest Road between Old Otay Mesa Road and Sunroad Boulevard (currently a dirt road) will be built to the standards of a Modified 4-Lane Industrial/Commercial Collector to accommodate a painted median and turn lanes at intersections (provides access for the following cumulative projects: California Crossings [cumulative traffic assumed at 100%] and Otay Tech Centre [Sunroad] [cumulative traffic assumed at 13%]);
- The Otay Mesa Road (SR-905)/Piper Ranch Road intersection has been modified to a four (4) legged intersection (south leg does not currently exist, provides access for the following cumulative projects: Interstate Industrial Centre [cumulative traffic assumed at 13%]); and Sunroad Otay Park [cumulative traffic assumed at 13%]);
- The Old Otay Mesa Road/Sanyo Avenue-Sunroad Boulevard intersection has been constructed as a four (4) legged intersection (north leg does not currently exist, provides access for the following cumulative project: Otay Tech Centre [cumulative traffic assumed at 13%]);
- The Old Otay Mesa Road/Vann Centre Boulevard intersection has been constructed as a T-intersection (Vann Center Boulevard does not currently exist, provides access for the following cumulative projects: Otay Tech Centre [cumulative traffic assumed at 13%] and International Industrial Park [cumulative traffic assumed at 13%]);
- The Old Otay Mesa Road/Enrico Fermi Drive intersection has been modified to a four (4) legged intersection (north leg does not currently exist access, provides access for the following cumulative project: International Industrial Park [cumulative traffic assumed at 13%]);
- The Alta Road/Lone Star Road (Paseo De La Fuente) intersection has been modified to a four (4) legged intersection (west leg currently does not exist, provides access for the following cumulative project: International Industrial Park [cumulative traffic assumed at 13%]);
- The Old Otay Mesa Road/Harvest Road intersection was assumed to be signalized (signalization of this intersections is required to provide access for the following cumulative project: California Crossings [cumulative traffic assumed at 100%]);

All other roadway segments and intersections were assumed to have the same lane configuration and traffic control as what currently exists (See Figure 10 in Section III). Figures 19 and 20 illustrate the cumulative (2020) with SR-905 [Phases 1A & 1B] roadway conditions.

CUMULATIVE (YEAR 2020) WITH SR-905 1A & 1B TRAFFIC FORECASTS

The traffic forecast for cumulative (2020) with SR-905 Phases 1A and 1B was prepared by SANDAG based on the Series 11 model. The 2020 land use information included in the model was based on the list of approved/pending projects in the County of San Diego summarized in Table 32. In addition, the City of San Diego provided SANDAG with proposed intensity of development that would occur by the year 2020 for the area of Otay Mesa located within the City's jurisdiction.

The roadway network assumptions included in the SANDAG model forecasts for the year 2020 were based on the assumptions previously described and illustrated in Figures 19 and 20. A copy of a map illustrating the roadway network assumptions utilized in the SANDAG 2020 model forecasts along with a copy of the SANDAG 2020 forecast are provided in Appendix B.

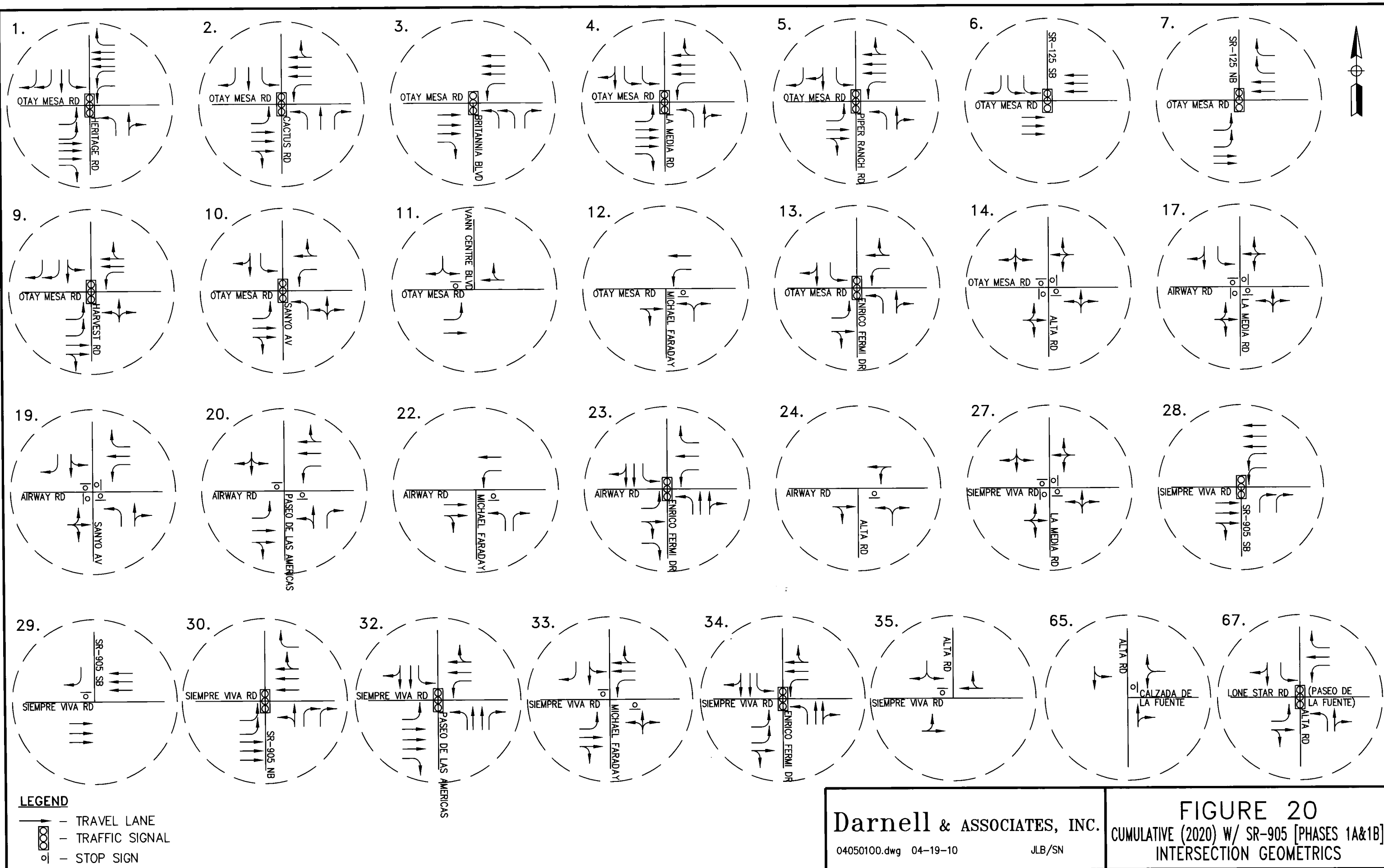


- LEGEND**
- 6-LANE PRIME ARTERIAL
 - - - - - MODIFIED 4-LANE MAJOR ROAD
 - ===== 4-LANE MAJOR ARTERIAL
 - 4-LANE COLLECTOR
 - 3-LANE TOWN COLLECTOR
 - 2-LANE COLLECTOR
 - xx----- 2-LANE COUNTY ROAD
 - OTHER ROAD
 - MODIFIED 4-LANE INDUSTRIAL/COMMERCIAL COLLECTOR
 - 4-LANE MODIFIED COLLECTOR

XX - INTERSECTION ID #, SEE FIGURE 13 FOR INTERSECTION LANE CONFIGURATIONS

NOTE: INTERSECTION NUMBERS ARE NOT SEQUENTIAL

Darnell & ASSOCIATES, INC.		FIGURE 19
04050100.dwg 04-19-10	JLB/SN	CUMULATIVE (2020) W/ SR-905 [PHASES 1A&1B] ROADWAY SEGMENT CONDITIONS



The trip distribution for the California Crossings project was based on a *Retail Site Selection Analysis* prepared by CBRE rather than a Select Zone distribution assignment generated by SANDAG. The *Retail Site Selection Analysis* estimated that approximately 70% of the customer base for California Crossings would come from cross border traffic from Mexico, while the SANDAG Select Zone forecast only estimated that 14% of the customer base for California Crossings would come from Mexico. Therefore, the results obtained from the SANDAG 2020 model forecast were modified to adjust the distribution for the California Crossings Project to reflect the findings of the *Retail Site Selection Analysis*.

Figures 21 and 22 provide the cumulative (2020) with SR-905 [Phases 1A & 1B] traffic volumes utilized in this analysis.

CUMULATIVE (YEAR 2020) WITH SR-905 1A & 1B LEVEL OF SERVICE

Roadway Segments

Table 33 summarizes the daily roadway segment level of service analysis under cumulative (2020) with SR-905 [Phases 1A & 1B]. As shown in Table 33, the following roadway segments operate at an unacceptable LOS E or F under cumulative (2020) with SR-905 Phases 1A & 1B conditions:

- Old Otay Mesa Road between Enrico Fermi Drive and Alta Road; and
- Enrico Fermi Drive between Otay Mesa Road and Airway Road.

The segment of Otay Mesa Road (Old Otay Mesa Road) between Enrico Fermi Drive and Alta Road operates at LOS C under existing conditions. With the addition of 20,428 ADT from the project, this segment of Otay Mesa Road (Old Otay Mesa Road) will operate at LOS E under cumulative (2020) with SR-905 [Phases 1A & 1B] conditions. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F). Since the project lowers the existing level of service from LOS C to LOS E, based on average daily conditions, the project is considered to have a significant cumulative impact on the segment of Otay Mesa Road (Old Otay Mesa Road) between Enrico Fermi Drive to Alta Road. See Section IX for a discussion on how the developer will mitigate its significant cumulative impacts.

The segment of Enrico Fermi Drive between Otay Mesa Road (Old Otay Mesa Road) and Airway Road operates at LOS A under existing conditions. With the addition of 14,895 ADT from the project, this segment of Enrico Fermi Drive will operate at LOS E under cumulative (2020) with SR-905 [Phases 1A & 1B] conditions. Per the PFE a significant impact will occur if the project reduces an acceptable level of service (LOS D or better) to an unacceptable level (LOS E or F). Since the project lowers the existing level of service from LOS A to LOS E, based on average daily conditions, the project is considered to have a significant cumulative impact on the segment of Enrico Fermi Drive between Otay Mesa Road (Old Otay Mesa Road) and Airway Road. See Section IX for a discussion on how the developer will mitigate its significant cumulative impacts.

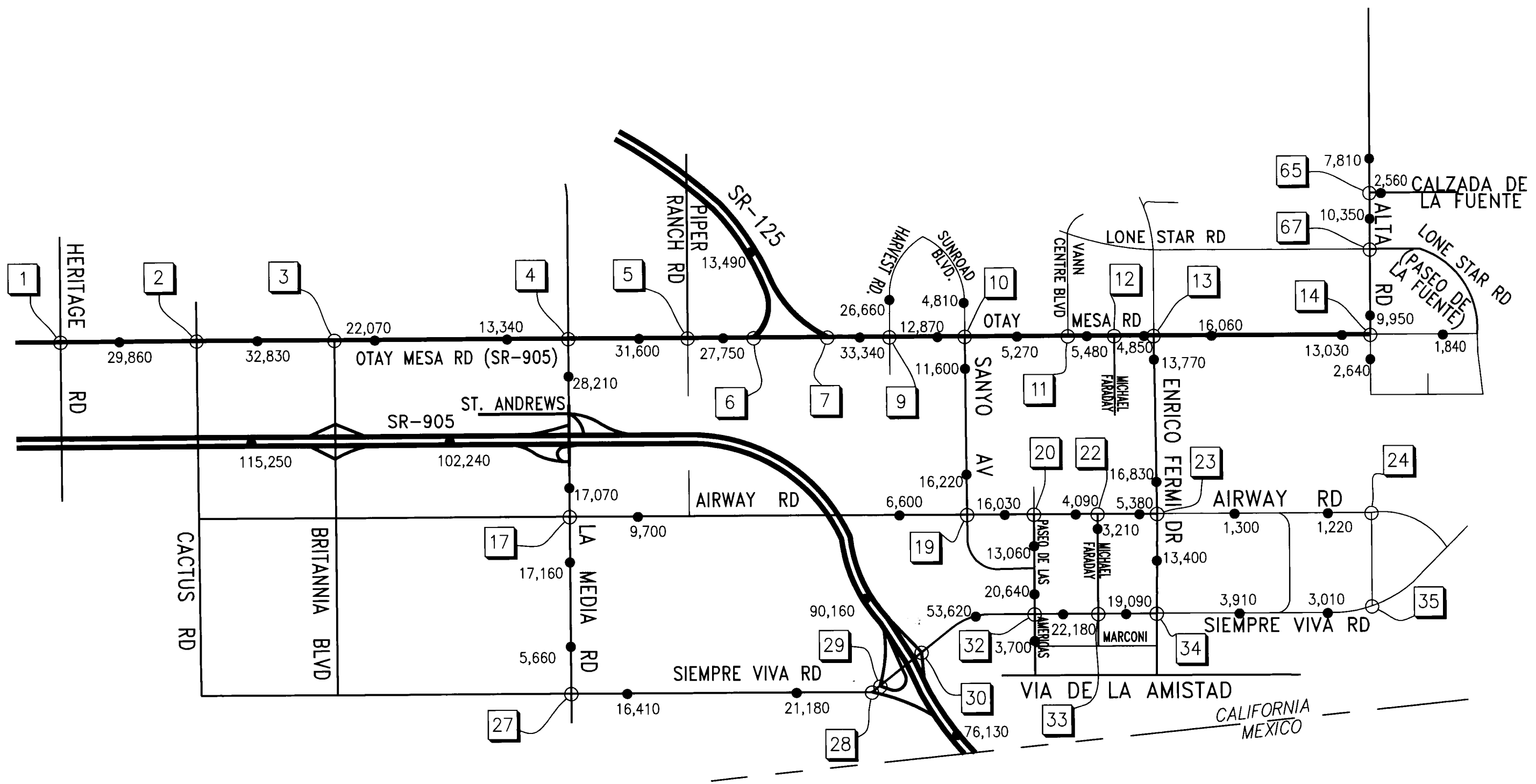
Intersections

Synchro Analysis

Table 34 summarizes the cumulative (2020) with SR-905 (Phases 1A & 1B) peak hour intersection level of service analysis. (A copy of the Synchro worksheets for cumulative conditions are provided in Appendix J.)

As shown in Table 34, the following intersections operate at an unacceptable LOS F under cumulative (2020) with SR-905 Phases 1A & 1B conditions:

- Otay Mesa Road/Vann Centre Boulevard;
- Otay Mesa Road/Alta Road;



LEGEND

● Z,ZZZ – AVERAGE DAILY TRAFFIC

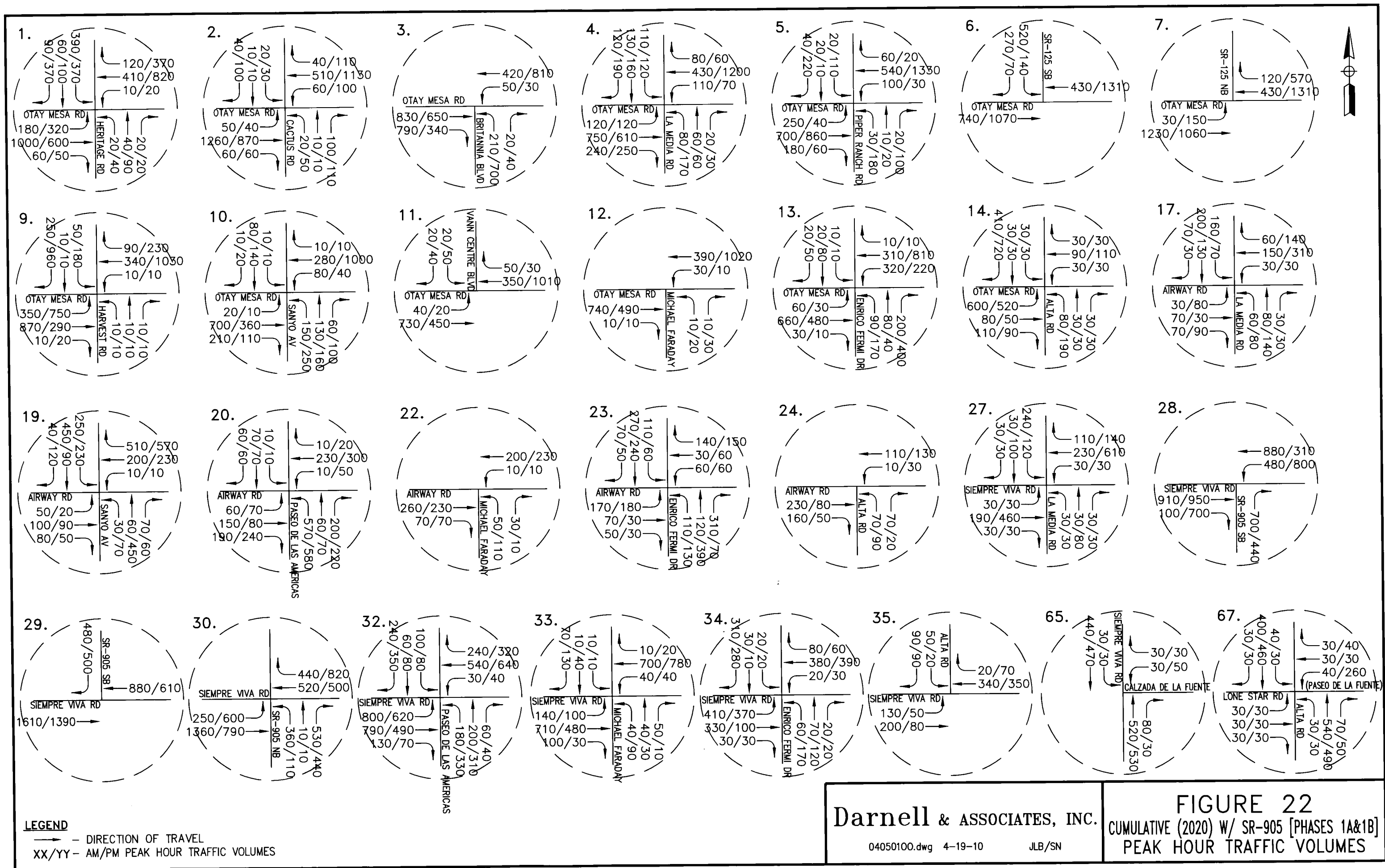
[XX] – INTERSECTION ID #, SEE FIGURE 15 FOR INTERSECTION PEAK HOUR TURNING VOLUMES

NOTE: INTERSECTION NUMBERS ARE NOT SEQUENTIAL

Darnell & ASSOCIATES, INC.

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FIGURE 21
CUMULATIVE (2020) W/ SR-905 [PHASES 1A&1B]
DAILY VOLUMES



Roadway Segment	Existing					Cumulative (2020) With SR-905 1A & 1B							
	Jurisdiction	Class	Capacity (LOS E)	ADT	V/C	LOS	Class	Capacity (LOS E)	Proj. Tr (c)	ADT	V/C	LOS	Cuml Impact?
Otay Mesa Rd Heritage Rd to Cactus Rd Cactus Rd to Britannia Blvd Britannia to La Media Rd La Media Rd to Piper Ranch Rd Piper Ranch Rd to SR-125	City/Caltrans City/Caltrans City/Caltrans City/Caltrans County/City/Caltrans	6P 6P 6P 5M 6P	60,000 60,000 60,000 45,000 57,000	64,299 71,080 58,999 44,523 43,109	1.07 1.18 0.98 0.99 0.76	F F E E C	6P 6P 6P 5M 6P	60,000 60,000 60,000 45,000 57,000	1,064 1,064 1,277 1,702 1,915	29,860 32,830 22,070 31,600 27,750	0.50 0.55 0.37 0.70 0.49	B B A C B	No No No No No
Old Otay Mesa Rd SR-125 to Harvest Rd Harvest Rd to Sanyo Av Sanyo Av to Vann Centre Blvd Vann Centre Blvd to Enrico Fermi Dr Enrico Fermi Dr to Alta Rd	County/City/Caltrans County/City/Caltrans County/City County/City County/City County	5M(a) 4M LC LC LC LC	47,000 37,000 16,200 16,200 16,200 16,200	16,686 8,224 9,133 9,133 6,928	0.36 0.22 0.56 0.56 0.43	A A D D C	5M(a) 4M LC LC LC LC	47,000 37,000 16,200 16,200 16,200 16,200	3,405 3,405 4,469 4,681 20,428	33,340 12,870 5,270 5,480 16,060	0.71 0.35 0.33 0.34 0.99	C A C C E	No No No No Yes
Airway Road La Media Rd to SR-905 SR-905 to Sanyo Av Sanyo Av to Paseo De Las Americas Paseo De Las Americas to Michael Faraday Michael Faraday to Enrico Fermi Dr Enrico Fermi Dr to Airway Pl Airway Pl to Alta Rd	City City City County/City County/City County County	2C 2C 4M 4M LC C Does Not Exist	15,000 10,000 40,000 37,000 16,200 34,200 Does Not Exist	8,093 9,631 5,649 4,533 2,918 1,160 -	0.54 0.96 0.14 0.12 0.18 0.03 -	C E A A B A -	2C 2C 4M 4M LC C LC	15,000 10,000 40,000 37,000 16,200 34,200 16,200	638 638 426 1,490 2,979 426 426	9,700 6,600 16,030 4,090 5,380 1,300 1,220	0.65 0.66 0.40 0.11 0.33 0.04 0.08	C C B A C A A	No No No No No No No
Siempre Viva Road Drucker Ln to SR-905 SR-905 to Paseo De Las Americas Paseo De Las Americas to Michael Faraday Michael Faraday to Enrico Fermi Dr	City City City City	6P 6P 4C 4C	60,000 60,000 30,000 30,000	12,976 26,653 9,886 6,442	0.22 0.44 0.33 0.21	A B A A	6P 6P 4C 4C	60,000 60,000 30,000 30,000	426 13,406 12,767 11,065	21,180 53,620 22,180 19,090	0.35 0.89 0.74 0.64	A D D C	No No No No
La Media Road Otay Mesa Rd to St. Andrews/SR-905 WB Ramp	City	4C	30,000	15,225	0.51	C	4MC	35,000	426	28,210	0.81	D	No
SR-125 North of Otay Mesa Rd	SBX	4-FWY	(b)	30,000	0.33	A	4-FWY	(b)	1,490	13,490	0.15	A	No
Existing State Route 905 Otay Mesa Rd to Siempre Viva Rd South of Siempre Viva Rd	City/Caltrans City/Caltrans	4M 4-FWY	40,000 (b)	37,823 28,000	0.95 0.32	E A	Does Not Exist 4-FWY	Does Not Exist (b)	- 3,192	- 76,130	- 0.86	- D	- No
New State Route 905 Britannia to La Media La Media to Siempre Viva Rd	Caltrans Caltrans	Does Not Exist Does Not Exist	Does Not Exist Does Not Exist	- -	- -	- -	6-FWY 6-FWY	(b) (b)	10,214 9,788	102,240 90,160	0.77 0.68	C C	No No
Sanyo Avenue Otay Mesa Rd to Airway Rd	City	4C	30,000	2,666	0.09	A	4C	30,000	426	16,220	0.54	C	No

City = Capacity of City segments is based on the upper limits of LOS E per the City of San Diego;
County = Capacity of County segments is based on the upper limits of LOS E per the County of San Diego; SBX = South Bay Expressway;
Bold = Jurisdiction which capacity & significance criteria is based on; ADT= Average Daily Traffic; LOS= Level of Service; V/C = Volume-to-Los E Capacity Ratio; 6-FWY = 6-Lane Freeway;
4-FWY = 4-Lane Freeway; 6P = 6-Lane Prime Arterial; 5M = 5-Lane Major Arterial; 4M = 4-Lane Major Arterial; C = Collector; 4MC = 4-Lane Modified Collector; 4C = 4-Lane Collector; 2C= 2-Lane Collector with no fronting property;
LC = Light Collector; Cuml. Impact = Identifies whether there is a significant cumulative impact
(a) Additional lanes may be provided to accommodate turning movements and freeway access; hence the roadway capacity was assumed to be 47,000 ADT at LOS E (half-way between a 4-lane Major & 6-Lane Prime Arterial).
(b) Capacity based on Caltrans District 11 & HCM procedures, See Appendix L for LOS calculations
(c) Project Traffic is representative of what the project would assign to the roadway network if 100% of the project was developed by the year 2020, See Figure 8 in Section II

Table 33 (Continued) – Cumulative (2020) With SR-905 1A & 1B Roadway Segment Daily LOS Summary													
Roadway Segment		Existing			Cumulative (2020) With SR-905 1A & 1B								
		Jurisdiction	Class	Capacity (LOS E)	ADT	V/C	LOS	Class	Capacity (LOS E)	Proj. Tr. (c)	ADT	V/C	LOS
Enrico Fermi Drive Otay Mesa Rd to Airway Rd Airway Rd to Siempre Viva Rd	County City	TC	19,000	2,681	0.14	A	TC	19,000	14,895	16,830	0.89	E	Yes
		4M	40,000	7,110	0.18	A	4M	40,000	11,491	13,400	0.34	A	No
Alta Road Calzada De La Fuente to Lone Star Rd (Paseo De La Fuente) Lone Star Rd (Paseo De La Fuente) to Otay Mesa Rd	County County	TC	19,000	6,787	0.36	C	TC	19,000	638	10,350	0.54	D	No
		LC	16,200	6,787	0.42	C	LC	16,200	0	9,950	0.61	D	No
City = Capacity of City segments is based on the upper limits of LOS E per the City of San Diego; County = Capacity of County segments is based on the upper limits of LOS E per the County of San Diego; SBX = South Bay Expressway; Bold = Jurisdiction which capacity & significance criteria is based on; ADT= Average Daily Traffic; LOS= Level of Service; V/C= Volume-to LOS E Capacity Ratio; 6-FWY = 6-Lane Freeway; 4-FWY = 4-Lane Freeway; 6P = 6-Lane Prime Arterial; 5M = 5-Lane Major Arterial; 4M = 4-Lane Major Arterial; C = Collector; 4MC = 4-Lane Modified Collector; C = 4-Lane Collector; 2C= 2-Lane Collector with no fronting property; LC = Light Collector; Cuml. Impact = Identifies whether there is a significant cumulative impact (a) Additional lanes may be provided to accommodate turning movements and freeway access; hence the roadway capacity was assumed to be 47,000 ADT at LOS E (half-way between a 4-lane Major & 6-Lane Prime Arterial). (b) Capacity based on Caltrans District 11 & HCM procedures. See Appendix L for LOS calculations (c) Project Traffic is representative of what the project would assign to the roadway network if 100% of the project was developed by the year 2020. See Figure 8 in Section II													

Table 34 - Cumulative (2020) w/ SR-905 1A & 1B Intersection Level of Service Summary																	
Intersections	Jurisdiction	Traffic Control	Critical Move	Existing				Cumulative (2020) w/ SR-905 1A & 1B									
				AM Peak		PM Peak		AM Peak				PM Peak					
				Delay	LOS	Delay	LOS	Delay	LOS	Proj. Trips(a)	Cumulative Impact?	Delay	LOS	Proj. Trips(a)	Cumulative Impact?		
Otay Mesa Rd (E-W) @ Heritage Rd (N-S)	City/Caltrans	Sig.	Int	30.1	C	29.2	C	C	22.5	C	143	No	No	22.2	C	150	No
Otay Mesa Rd (E-W) @ Cactus Rd (N-S)	City/Caltrans	Sig.	Int	8.9	A	11.5	B	B	5.1	A	143	No	No	10.8	B	151	No
Otay Mesa Rd (E-W) @ Britannia Blvd (N-S)	City/Caltrans	Sig.	Int	10.3	B	18.8	B	B	8.6	A	143	No	No	12.6	B	151	No
Otay Mesa Rd (E-W) @ La Media Rd (N-S)	City/Caltrans	Sig.	Int	14.1	B	27.0	C	C	11.3	B	229	No	No	23.7	C	241	No
Otay Mesa Rd (E-W) @ Piper Ranch Rd (N-S)	County/City/Caltrans	Sig.	Int	6.1	A	3.6	A	A	10.0	A	257	No	No	8.7	A	272	No
Otay Mesa Rd (E-W) @ SR-125 SB (N-S)	County/City/SBX	Sig.	Int	11.2	B	2.5	A	A	11.2	B	410	No	No	7.3	A	337	No
Otay Mesa Rd (E-W) @ SR-125 NB (N-S)	County/City/SBX	Sig.	Int	0.9	A	5.6	A	A	3.0	A	456	No	No	3.3	A	482	No
Otay Mesa Rd (E-W) @ Harvest Rd (N-S)	County/City/SBX	Sig.	Int	16.1	B	21.1	C	C	14.0	B	457	No	No	23.3	C	482	No
Otay Mesa Rd (E-W) @ Sanyo Av (N-S)	County/City	Sig.	Int	4.1	A	12.6	B	B	18.9	B	600	No	No	52.6	D	632	No
Otay Mesa Rd (E-W) @ Vann Centre Blvd (N-S)	County	OWSC	SB	Does Not Exist					20.6	C	22	No	No	73.0	F	9	Yes
Otay Mesa Rd (E-W) @ Enrico Fermi Dr (N-S)	County	Sig.	Int	10.4	B	9.4	A	A	28.2	C	2,653	No	No	22.6	C	2,806	No
Otay Mesa Rd (E-W) @ Alta Rd (N-S)	County	AWSC	EB	32.5	D	9.8	A	A	261.3	F	2,105	Yes	Yes	230.0	F	908	Yes
			WB	0.0	A	0.0	A	A	13.9	B	198			17.5	C	621	
			NB	9.3	A	8.2	A	A	13.9	B	436			22.6	C	1,367	
			SB	9.8	A	18.3	C	C	34.8	D	0			279.3	F	0	
				Int	27.6	D	17.2	C	146.3	F	2,739			203.4	F	2,896	
Airway Rd (E-W) @ La Media Rd (N-S)	City	AWSC	EB	11.1	B	14.5	B	B	12.0	B	22	No	No	13.0	B	9	No
			WB	10.9	B	13.9	B	B	13.8	B	7			27.1	D	21	
			NB	11.4	B	15.4	C	C	12.4	B	0			15.9	C	0	
			SB	13.3	B	12.2	B	B	13.5	B	0			12.0	B	0	
				Int	12.3	B	13.9	B	13.1	B	29			19.3	C	30	
(a) Project Traffic is representative of what the project would assign to the roadway network if 100% of the project was developed by the year 2020, See Figure 8 in Section II																	
LOS=Level of Service; Delay is measured in seconds/vehicle; sig=signalized; AWSC=All Way Stop Controlled; TWSC = Two-Way Stop-Controlled; OWSC=One Way Stop Controlled; Int = Intersection; NB = Northbound Approach; SB = Southbound Approach; EB = Eastbound Approach; WB = Westbound Approach; NBL = Northbound Left; SBX = South Bay Expressway; E-W = East-West Roadway; N-S = North-South Roadway; Bold = Jurisdiction which significance criteria is based on																	

(a) Project Traffic is representative of what the project would assign to the roadway network if 100% of the project was developed by the year 2020, See Figure 8 in Section II
LOS=Level of Service; Delay is measured in seconds/vehicle; sig=signalized; AWSC=All Way Stop Controlled; TWSC=Two-Way Stop Controlled; OWSC=One Way Stop Controlled; Int = Intersection;
NB = Northbound Approach; SB = Southbound Approach; EB = Eastbound Approach; WB = Westbound Approach; NBL = Northbound Left; SBX = South Bay Expressway; E-W = East-West Roadway;
N-S = North-South Roadway; **Bold** = Jurisdiction which significance criteria is based on

Table 34 (Continued) – Cumulative (2020) w/ SR-905 1A & 1B Intersection Level of Service Summary

Intersections	Jurisdiction	Traffic Control	Critical Move	Existing						Cumulative (2020) w/ SR-905 1A & 1B					
				AM Peak			PM Peak			AM Peak			PM Peak		
				Delay	LOS		Delay	LOS		Delay	LOS		Delay	LOS	
Airway Rd (E-W) @ Sanyo Av (N-S)	City	AWSC	EB	9.0	A		9.0	A		21.5	C		21.2	C	
			WB	8.7	A		10.3	B		63.6	F		165.5	F	
			NB	7.9	A		9.1	A		13.8	B		191.2	F	0
			SB	9.4	A		8.0	A		312.8	F	7	46.0	E	21
			Int	9.0	A		9.3	A		153.8	F	86	135.0	F	90
Airway Rd (E-W) @ Paseo De Las Americas (N-S)	County/City	OWSC	NB	9.7	A		10.6	B		683.3	F	110	7,473.4	F	47
Airway Rd (E-W) @ Michael Faraday (N-S)	County/City	OWSC	NB	9.6	A		9.6	A		13.7	B	154	16.7	C	66
Airway Rd (E-W) @ Enrico Fermi Dr (N-S)	County/City	Sig.	Int	6.6	A		13.0	B		21.4	C	1,996	24.1	C	2,111
Siempre Viva Rd (E-W) @ SR-905 SB off to Siempre Viva EB (N-S)	Caltrans	Sig.	Int	7.0	A		8.5	A		9.3	A	1,165	16.5	B	806
Siempre Viva Rd (E-W) @ SR-905 SB off to Siempre Viva WB (N-S)	Caltrans	OWSC	SB	14.3	B		13.3	B		32.2	D	0	18.9	C	0
Siempre Viva Rd (E-W) @ SR-905 NB Ramp (N-S)	Caltrans	Sig.	Int	10.8	B		11.0	B		13.9	B	1,798	14.7	B	1,901
Siempre Viva Rd (E-W) @ Paseo De Las Americas (N-S)	City	Sig.	Int	24.7	C		40.0	D		47.3	D	1,827	51.9	D	1,931
Siempre Viva Rd (E-W) @ Michael Faraday (N-S)	City	TWSC	NB	14.5	B		13.2	B		ERR	F	0	ERR	F	0
Siempre Viva Rd (E-W) @ Enrico Fermi Dr (N-S)	County/City	Sig.	Int	12.6	B		13.7	B		17.4	B	1,540	28.2	C	1,629
Alta Rd (N-S) @ Calzada De La Fuente (E-W)	County	OWSC	WB	14.1	B		12.3	B		16.7	C	86	18.8	C	90
Alta Rd (N-S) @ Paseo De La Fuente (E-W)	County	Sig.	Int	2.7	A		12.6	B		14.2	B	86	23.5	C	90

(a) Project Traffic is representative of what the project would assign to the roadway network if 100% of the project was developed by the year 2020, See Figure 8 in Section II
LOS=Level of Service; Delay is measured in seconds/vehicle; sig=signalized; AWSC=All Way Stop Controlled; TWSC = Two-Way Stop Controlled; OWSC=One Way Stop Controlled; Int = Intersection; NB = Northbound Approach; SB = Southbound Approach; EB = Eastbound Approach; WB = Westbound Approach; NBL = Northbound Left; SBX = South Bay Expressway; E-W = East-West Roadway; N-S = North-South Roadway; **Bold** = Jurisdiction which significance criteria is based on; ERR = Delay is too high for the software to calculate

- Airway Road/Sanyo Avenue;
- Airway Road/Paseo De Las Americas; and
- Siempre Viva Road/Michael Faraday Drive.

If the project is fully occupied (the 2020 forecast assumes Otay Crossings is developed at 13%), it would add between 9 to 2,105 peak hour trips to the critical (failing movements) at these intersections and is therefore considered to be part of the significant cumulative impact. See Section IX for the recommended mitigation of the project's cumulative impacts.

ILV Analysis

Table 35 summarizes the cumulative (2020) with SR-905 [Phases 1A & 1B] ILV analysis. As shown in Table 35, the Siempre Viva Road/SR-905 SB Ramp to EB Siempre Viva Road intersection operates under stable flow during the AM peak hour and under unstable flow during the PM peak hour under cumulative (2020) with SR-905 [Phases 1A & 1B] conditions. All other intersections operate under stable flow during the AM and PM peak hours. A copy of the ILV worksheets can be found in Appendix J.

Table 35 – Existing + Project Build-Out (Units 1-5) ILV Analysis								
Intersection	Existing				Cumulative (2020) w/ SR-905 1A & 1B			
	AM Peak Hour		PM Peak Hour		AM Peak		PM Peak	
	ILV/Hr	Operating Condition	ILV/Hr	Operating Condition	ILV/Hr	Operating Condition	ILV/Hr	Operating Condition
Otay Mesa Rd (E-W) @ SR-125 SB (N-S)	701	Stable Flow	677	Stable Flow	517	Stable Flow	507	Stable Flow
Otay Mesa Rd (E-W) @ SR-125 NB (N-S)	417	Stable Flow	754	Stable Flow	615	Stable Flow	730	Stable Flow
Siempre Viva (E-W) @ SR-905 SB to EB Siempre Viva (N-S)	363	Stable Flow	463	Stable Flow	807	Stable Flow	1,220	Unstable Flow
Siempre Viva (E-W) @ SR-905 NB Ramp (N-S)	372	Stable Flow	483	Stable Flow	837	Stable Flow	930	Stable Flow
ILV/Hour = Intersecting Lane Vehicles Per Hour; <1,200 ILV/Hour = Stable Flow; 1,200 - 1,500 ILV/Hour = Unstable Flow; 1,500 ILV/Hour = Capacity, Stop and Go Operation E-W = East-West Roadway; N-S = North-South Roadway								

SECTION VI – YEAR 2030 CONDITIONS

The 2030 roadway conditions and traffic forecast for the East Otay Mesa area are based on the recent study prepared by the County for amendment of the East Otay Mesa Specific Plan. A description of East Otay Mesa Specific Plan Amendment 2006 and the traffic assessment update to the amendment are provided in this section of the study.

EAST OTAY MESA SPECIFIC PLAN AMENDMENT 2007

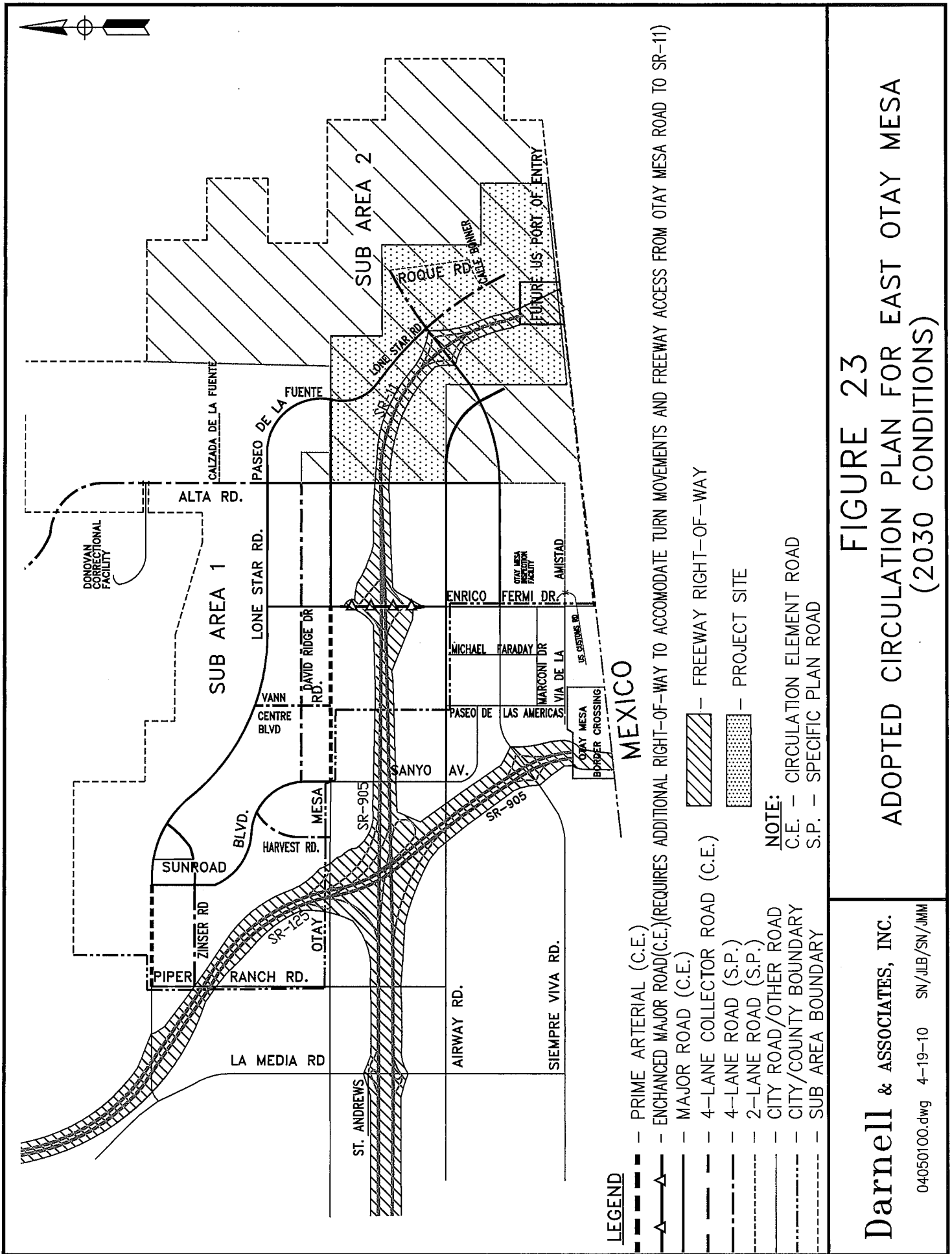
The Board of Supervisors for County of San Diego approved the East Otay Mesa Specific Plan Amendment on August 1, 2007. There were three types of amendments adopted for the East Otay Mesa Specific Plan Subareas 1 and 2. The amendments were to the circulation plan, bicycle network, and regulatory standards relating to site plan requirements, fencing detail, driveway location criteria, and sidewalk design. The following summarizes the General Plan Circulation Element and Specific Plan changes that directly impact the roadway network in the vicinity of the proposed project:

Circulation Network

Figure 23 illustrates the recently adopted circulation plan for 2030 conditions in the East Otay Mesa area in the County of San Diego.

Under the proposed project, the Subarea 1 and Subarea 2 circulation network has been revised to include the following changes to Circulation Element Roads:

1. **Ellis Road:** Delete (segment between Lone Star Road and Otay Mesa Road) from the General Plan Circulation Element and replace it with the extension of Sanyo Avenue (to be renamed Sunroad Boulevard) from Lone Star Road to Otay Mesa Road. With the extension of Sunroad Boulevard, Ellis Road is no longer necessary. Also, the alignment of Ellis Road conflicts with the extension of SR-125 at Otay Mesa Road.
2. **Sunroad Boulevard:** Extend northerly from Otay Mesa Road to Lone Star Road. This extension will replace Ellis Road and provide a direct connection from Lone Star Road southerly to Airway Road.
3. **Enrico Fermi Drive:** Between Otay Mesa Road and SR-11, change road classification from four-lane (4L) Major to an Enhanced 4L Major. Additional turn lanes will be needed to accommodate traffic at the Enrico Fermi Drive/SR-11 interchange due to the deletion of Michael Faraday Drive.
4. **Otay Mesa Road:** Delete Bike Route from Piper Ranch Road to Enrico Fermi Drive on Otay Mesa Road. This change is required since the 69kv utility poles will not be placed underground and those utility poles contain a critical fiber optic communications line for the State and County prisons that cannot be interrupted.
5. **Lone Star Road/Loop Road:** Extend Lone Star Road easterly to intersect with Siempre Viva Road easterly of SR-11. Loop Road as a separate road classification will be deleted. This section is being redesigned due to the latest design of SR-11 and its relocated interchange with Lone Star Road and Siempre Viva Road.
6. **Siempre Viva Road:** Extend Siempre Viva Road easterly to intersect with the new extension of Lone Star Road. This section is being redesigned due to the latest design of SR-11 and its relocated interchange with Lone Star Road and Siempre Viva Road.



7. **Airway Road:** Extend easterly to intersect with the new extension of Siempre Viva Road. This section is being redesigned due to the latest design of SR-11 and Siempre Viva Road.
8. **Alta Road:** No amendment to the circulation element; however, the Specific plan will include conceptual geometrics to reflect a modified street section of Alta Road north of Otay Mesa Road.
9. **SR-11:** Realign SR-11 Right-of-way to represent the latest Caltrans design and U.S. Port of Entry location. This represents the latest design for SR-11 and assists in the implementation of the supporting EOM circulation system.

Under the proposed project, the Subarea 1 and Subarea 2 circulation network has been revised to include the following changes to Specific Plan Roads:

10. **Tech Center Way:** Delete from Ellis Road extending east of Sanyo Avenue (Sunroad Boulevard). This section is no longer needed due to the redesign of Zinser Road.
11. **Zinser Road:** Extend Zinser Road easterly from the proposed Sunroad Boulevard to Lone Star Road. This extension provides a direct connection between Piper Ranch Road and Lone Star Road.
12. **Harvest Road:** Extend northerly from current the David Ridge Drive to Sunroad Boulevard. This provides an alternate connection between Otay Mesa Road and Sunroad Boulevard.
13. **David Ridge Drive:** Delete westerly from Sunroad Boulevard (existing Sanyo Avenue). Based on the design of the Sunroad Business Park, this roadway is no longer needed.
14. **Vann Centre Boulevard:** Extend Vann Centre Boulevard northerly from David Ridge Drive to Lone Star Road. With the deletion of Michael Faraday Drive, this provides an alternate north-south route from Otay Mesa Road to Lone Star Road.
15. **Michael Faraday Drive:** Delete from Lone Star Road to Airway Road. This deletion is necessary since it would potentially conflict with the ramp at Enrico Fermi Drive and the crossing at SR-11 and the circulation alternatives being proposed in this amendment would be more cost effective.
16. Due to the latest design of SR-11 and its relocated interchange with Lone Star Road and Siempre Viva Road, the easterly extensions of Airway Road and Siempre Viva Road from Lone Star Road (existing Loop Road) to Roque Road are realigned. Siempre Viva Road extends easterly to end at Roque Road. Calle Bonner connects Lone Star Road to Roque Road. The easterly extensions of Airway Road and Siempre Viva Road from Lone Star Road (existing Loop Road) to Roque Road are Specific Plan Roads.

Bicycle Network

Under the proposed project, the Subarea 1 and Subarea 2 bicycle network system has been revised to include the following:

1. Addition of bicycle lane on Sunroad Boulevard from David Ridge Drive to Lone Star Road;
2. Addition of bicycle lane to Zinser Road from Lone Star Road to Piper Ranch Road;
3. Addition of bicycle lane to Enrico Fermi Drive from Lone Star Road to Siempre Viva Road to provide connectivity for bike lanes on Lone Star Road, David Ridge Drive, Airway Road, and Siempre Viva Road;
4. Addition of bicycle lane to Alta Road from Otay Mesa Road to Siempre Viva Road to provide additional connectivity for bike lanes on Lone Star Road, David Ridge Drive, Airway Road, and Siempre Viva Road;

5. Deletion of bicycle lane on Otay Mesa Road from Piper Ranch Road to Enrico Fermi Drive since construction of this roadway segment per the County's standards of a six-lane (6-L) prime arterial is constrained due to existence of high voltage transmission lines and existing building along the southerly side of the road and realignment to the northerly side would require additional right-of-way and appropriate transition east of Enrico Fermi Drive. In addition, there would be a large volume of traffic including trucks crossing the location of the on and off ramps for SR-125, hence this segment of Otay Mesa Road is not an ideal location for a bike lane;
6. Deletion of bicycle lane on David Ridge Drive westerly of Sunroad Boulevard (existing Sanyo Avenue) since that section of the road is being deleted;
7. Deletion of bicycle lane on Michael Faraday Drive from Lone Star Road to Airway Road since that section of the road is being deleted;
8. Realignment of roadway network and bicycle lanes on Lone Star Road, Airway Road, and Siempre Viva Road;

These changes have been approved due to an overall update of the circulation system and the need to provide alternative bicycle connections when an existing route was deleted.

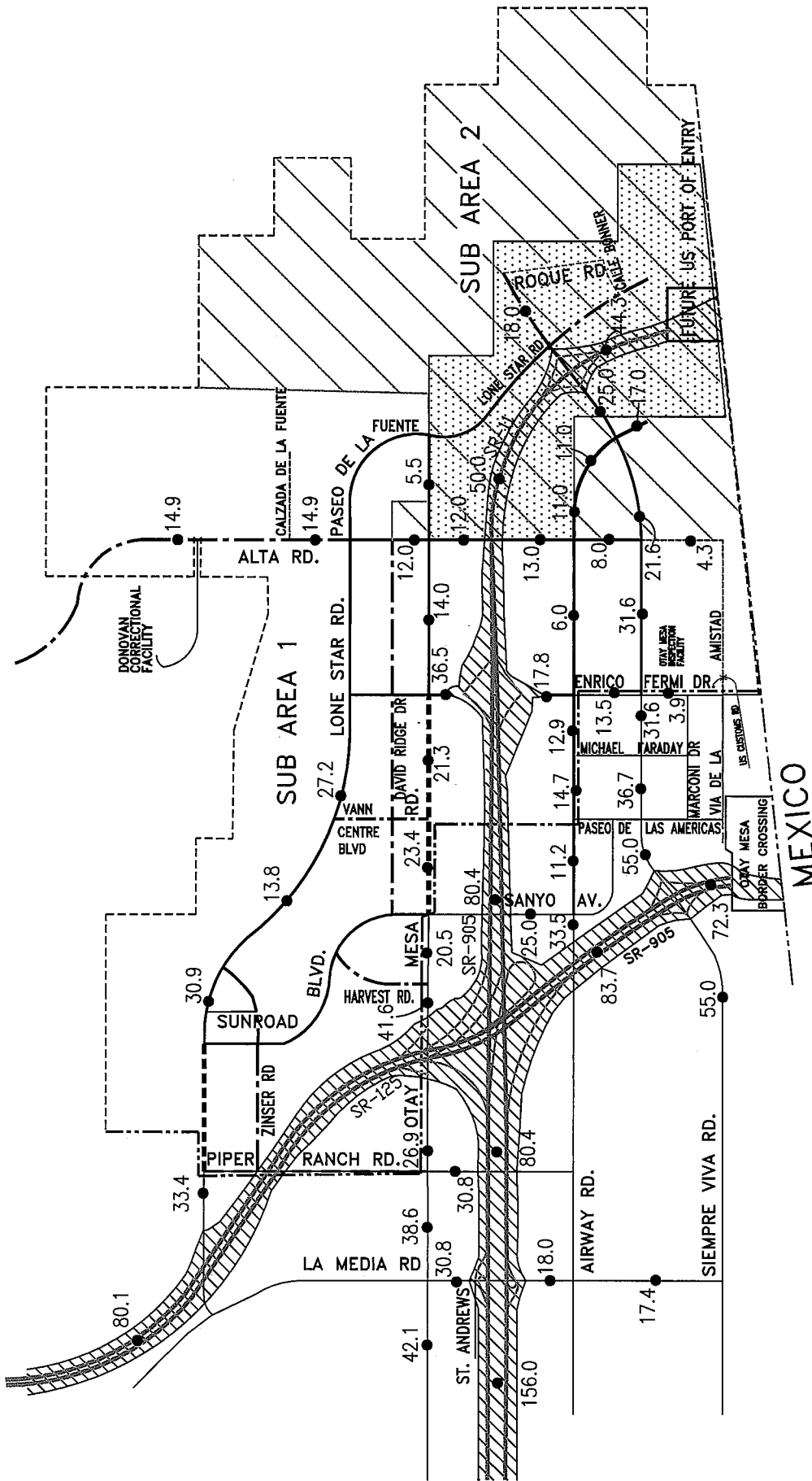
TRAFFIC ASSESSMENT UPDATE FOR THE EAST OTAY MESA SPECIFIC PLAN AMENDMENT 2007

In June 2006, the County retained the services of Darnell & Associates (D&A) to provide an update to the traffic assessment for the Specific Plan Amendment 2002. The report provides a program-level analysis to update the traffic assessment for the East Otay Mesa Specific Plan prepared by the Department of Public Works in May 2002. The amendment to the Specific Plan was adopted by the Board of Supervisors on August 1, 2007. The amendment also includes the traffic forecast for build out of land uses in the EOMSPA including the changes in circulation plan described previously. The build out forecast provided in the traffic assessment update for the EOMSPA includes the retention of previously approved land uses. Since the project is consistent with the EOMSP, the traffic from the proposed project is included in the build out forecast.

Figure 24 provides the 2030 traffic forecast for East Otay Mesa area including build out of the proposed project (Units 1-5).

YEAR 2030 ROADWAY SEGMENT LEVEL OF SERVICE ANALYSIS

As shown in Table 36, all roadway segments in the proposed circulation plan for the EOMSPA operate at acceptable level of service under 2030 conditions. Since all roadway segments operate at LOS D or better under 2030 conditions with and without build out of the proposed project (Units 1-5) conditions, the project does not have an impact under 2030 conditions.



LEGEND

XX.X — AVERAGE DAILY TRAFFIC VOLUMES IN THOUSAND (INCLUDES PROJECT TRAFFIC)

— CITY/COUNTY BOUNDARY

— SUB AREA BOUNDARY

— FREEWAY RIGHT-OF-WAY

— PROJECT SITE

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FIGURE 24

ADOPTED CIRCULATION PLAN TRAFFIC FORECAST-2030 + PROJECT (UNITS 1-5)

Table 36 – 2030 + Project Build Out (Units 1-5) Roadway Segment Daily LOS Summary										
Roadway Segment	Jurisdiction	Class	Capacity (LOS E)	2030 w/o Project			2030 + Project Build Out (Units 1-5)			
				ADT	V/C	LOS	Proj. Tr	ADT	V/C	LOS
Otay Mesa Road										
Britannia Blvd to La Media Rd	City	6P	60,000	41,249	0.69	C	851	42,100	0.70	C
La Media Rd to Piper Ranch Rd	City	6P	60,000	37,749	0.63	C	851	38,600	0.64	C
Piper Ranch Rd to SR-125	County/City	6P	57,000	26,049	0.46	B	851	26,900	0.47	B
SR-125 to Harvest Rd	County/City	6P	57,000	40,789	0.72	C	851	41,640	0.73	C
Harvest Rd to Sanyo Av	County/City	6P	57,000	19,649	0.34	A	851	20,500	0.36	A
Sanyo Av to Vann Centre Blvd	County/City	6P	57,000	21,910	0.38	A	1,490	23,400	0.41	B
Vann Centre Blvd to Enrico Fermi Dr	County	6P	57,000	19,810	0.35	A	1,490	21,300	0.37	A
Enrico Fermi Dr to Alta Rd	County	4M	37,000	11,872	0.32	A	2,128	14,000	0.38	A
Airway Road										
SR-905 to Sanyo Av	City	4M	40,000	33,075	0.83	D	425	33,500	0.84	D
Sanyo to Paseo De Las Americas	City	4M	40,000	10,562	0.26	A	638	11,200	0.28	A
Paseo De Las Americas to Michael Faraday Dr	County/City	4M	37,000	14,062	0.38	A	638	14,700	0.40	A
Michael Faraday Dr to Enrico Fermi Dr	County/City	4M	37,000	12,262	0.33	A	638	12,900	0.35	A
Enrico Fermi Dr to Alta Rd	County	4M	37,000	5,149	0.14	A	851	6,000	0.16	A
Siempre Viva Road										
SR-905 NB to Paseo de las Americas	City	6P	60,000	52,872	0.88	D	2,128	55,000	0.92	D
Paseo de las Americas to Michael Faraday Dr	City	6P	60,000	34,572	0.58	B	2,128	36,700	0.61	C
Michael Faraday Dr to Enrico Fermi Dr	City	6P	60,000	29,472	0.49	B	2,128	31,600	0.53	B
Enrico Fermi Dr to Alta Rd	County	4M	37,000	23,860	0.64	B	2,340	26,200	0.71	C
La Media Road										
Otay Mesa Rd to Saint Andrews-SR-905 WB ramp	City	6P	60,000	30,800	0.51	B	0	30,800	0.51	B
Saint Andrews-SR-905 WB ramp to SR-905 EB ramp	City	6P	60,000	30,800	0.51	B	0	30,800	0.51	B
SR-905 EB ramp to Airway Rd	City	6P	60,000	18,000	0.30	A	0	18,000	0.30	A
SR-125										
North of Otay Mesa Rd	SBX	4-Fwy	(b)	76,908	0.84	D	3,192	80,100	0.88	D
Existing SR-905										
Otay Mesa Rd to Siempre Viva Rd	Caltrans	6-Fwy	(b)	83,275	0.63	C	425	83,700	0.63	C
South of Siempre Viva Rd	Caltrans	6-Fwy	(b)	71,023	0.54	B	1,277	72,300	0.55	B
Sanyo Avenue										
Otay Mesa Rd to Airway Rd	City	4C	30,000	24,787	0.83	D	213	25,000	0.83	D
Enrico Fermi Drive										
Otay Mesa Rd to Airway Rd	County	5M(a)	47,000	36,287	0.77	C	213	36,500	0.78	C
Airway Rd to Siempre Viva Rd	City	4M	40,000	13,287	0.33	A	213	13,500	0.34	A
Alta Road										
Calzada De La Fuente to Paseo De La Fuente	County	4C	34,200	12,772	0.37	A	2,128	14,900	0.44	B
Paseo De La Fuente to Otay Mesa	County	4M	37,000	9,872	0.27	A	2,128	12,000	0.32	A
New SR-905 Facility										
West of La Media Rd	Caltrans	8-Fwy	(b)	148,765	0.84	D	7,235	156,000	0.89	D
East of La Media Rd	Caltrans	8-Fwy	(b)	73,165	0.42	B	7,235	80,400	0.46	B
City = Capacity of city segments is based on the upper limits of LOS E per the City of San Diego; County = Capacity of county segments is based on the upper limits of LOS E per the County of San Diego; SBX = South Bay Expressway;										
Bold = Jurisdiction which capacity is based on; ADT= Average Daily Traffic; LOS= Level of Service; V/C = Volume-to LOS E Capacity Ratio; Fwy = Freeway; 6P = 6-Lane Prime Arterial; 5M = 5-Lane Major Arterial; 4M = 4-Lane Major Arterial; 4C = 4-Lane Collector.										
(a) Additional lanes may be provided to accommodate turning movements and freeway access; hence the roadway capacity was assumed to be 47,000 ADT at LOS E (half way between a 4M & 6P).										
(b) Capacity based on Caltrans District 11 & HCM procedures, See Appendix L for LOS calculations.										

SECTION VII – PROJECT ACCESS AND INTERNAL CIRCULATION

PROJECT ACCESS

The proposed project site is located on 311.5 acres at the southeast corner of Otay Mesa Road (Old Otay Mesa Road) and Alta Road in the Otay Mesa Area of San Diego County. As shown in Figure 2, Section I, the project site can be accessed via Otay Mesa Road (Old Otay Mesa Road), Alta Road, and Airway Road. It is proposed that with the development of Units 1-3, the project site will provide access off the Otay Mesa Road/Alta Road and Otay Mesa Road/Paseo De La Fuente-Lone Star Road (formerly Loop Road) intersections. Subsequently, with the development of Units 4-5, the project site will provided additional access off the Alta Road/Airway Road intersection. The proposed Paseo De La Fuente-Lone Star Road (formerly Loop Road) and SR-11 also traverse the project site under cumulative and future conditions providing additional access to the project site. The roadway segments of Calle Ventner, Street C, and Street D are non-circulation element roadways proposed on the project site to facilitate internal circulation. Additionally, Street A and B are cul-de-sac streets that provide access to lots.

INTERNAL TRIP DISTRIBUTION/INTERNAL TRAFFIC

Figures 25 – 30 provide an illustration of the internal circulation/trip distribution percentages and project related traffic volumes for each unit of development of the project for existing conditions. Since the internal roadways do not currently exist, the project traffic volumes illustrated in Figures 25 – 30 for Unit 1, Units 1-2, Units 1-3, Units 1-4, and Units 1-5 under existing conditions are also representative of the existing plus project traffic volume conditions. Figure 31 provides an illustration of the internal circulation/trip distribution percentages and project related traffic volumes for each unit of development of the project for 2030 conditions.

Figure 32 provides an illustration of the internal project related traffic volumes for cumulative (2020) with SR-905 [Phases 1A & 1B]. It should be noted that the cumulative (2020) with SR-905 [Phases 1A & 1B] volumes are lower than the existing plus project volumes due to the SANDAG 2020 Model run that has assumed 13% of Otay Crossings would be constructed by the year 2020.

Figure 33 illustrates the 2030 plus Units 1-5 project daily traffic volumes on the internal roadway network.

INTERNAL LEVEL OF SERVICE ANALYSIS

Internal – Roadway Segments

Although the project site can provide additional access via the segments of Airway Road between Alta Road and Siempre Viva Road and Siempre Viva Road between Airway Road and Lone Star Road, this additional access route is not required immediately and was thus not included in the analysis until the development of Units 4 and 5. In addition, to constructing the off-site segments of Airway Road between Alta Road and Siempre Viva Road and Siempre Viva Road between Airway Road and Lone Star Road with the development of Units 4 and 5 (if not previously constructed by the Otay Business Park Development [TM 5505]), the project will be required to construct on-site improvements to the County circulation element roadways of Otay Mesa Road, Siempre Viva Road, Alta Road, and Lone Star Road along with the non circulation element roadways in order to facilitate internal circulation within the project site. The *Public Facility Element* for the County of San Diego also requires that all on-site County Circulation Element roads operate at Level of Service C or better. (A copy of excerpts from the County's *Public Facility Element* can be found in Appendix A.)

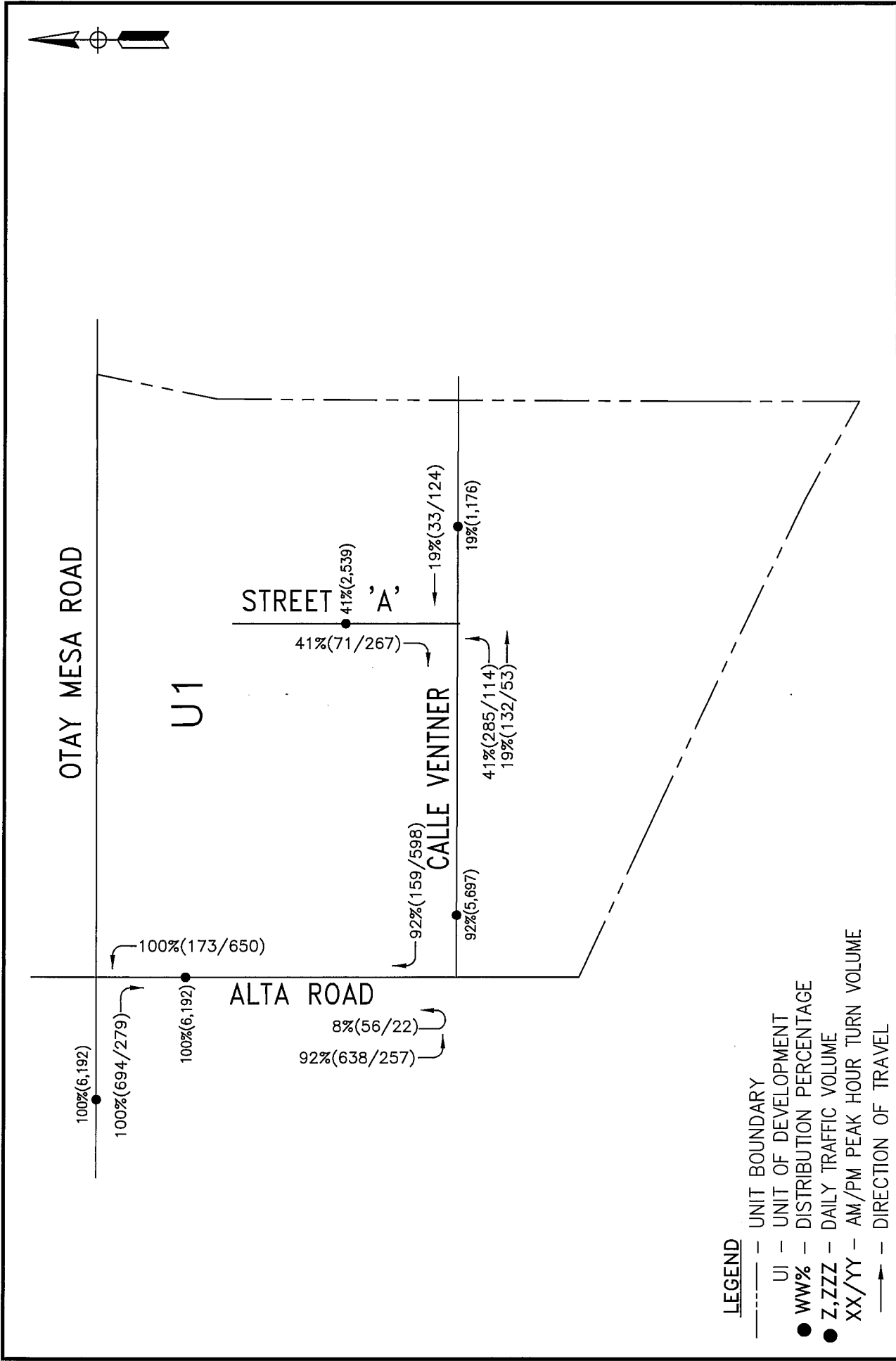


FIGURE 25

UNIT 1 INTERNAL CIRCULATION/DISTRIBUTION & PROJECT TRAFFIC (EXISTING CONDITIONS)

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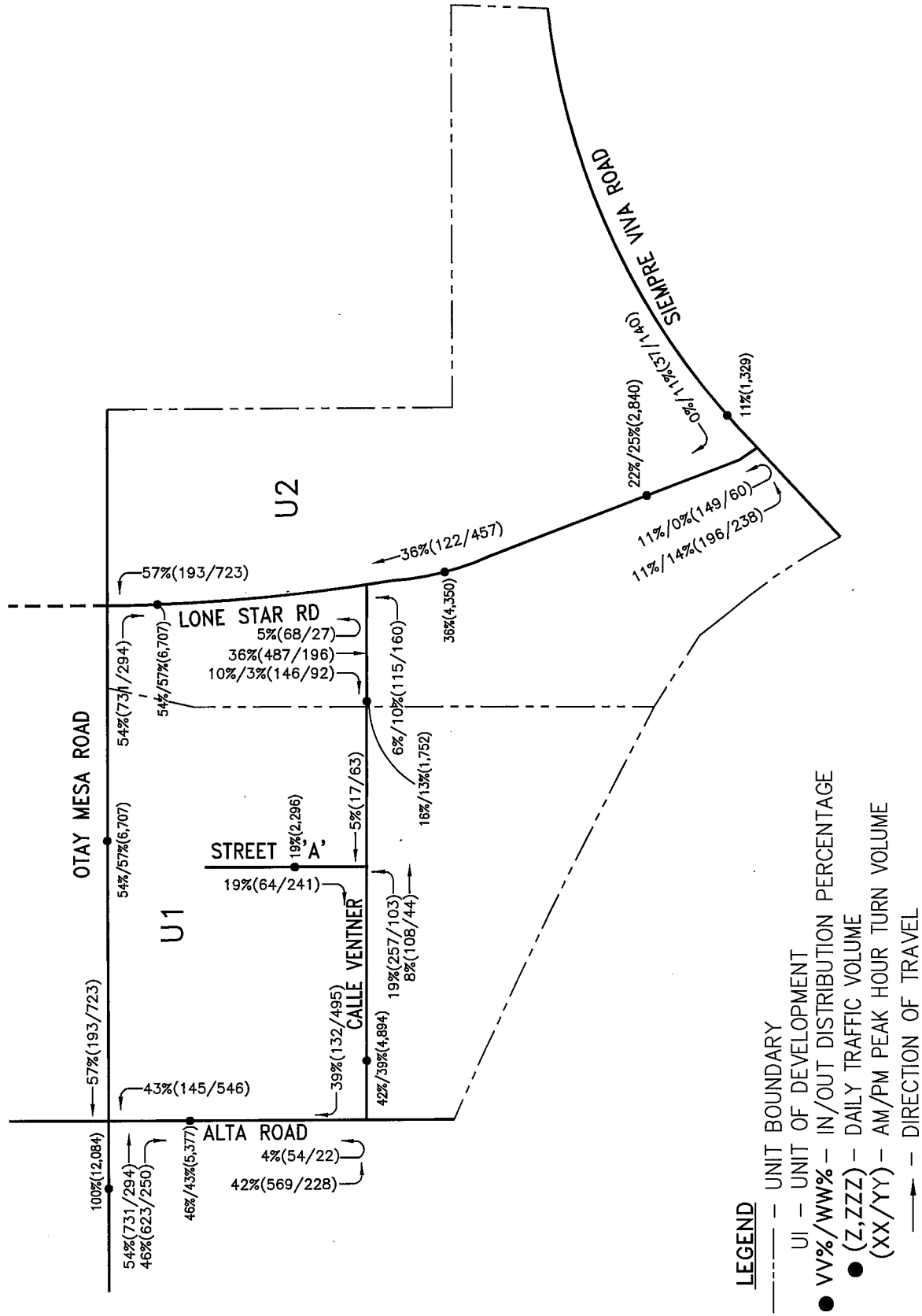
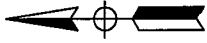


FIGURE 26

UNITS 1-2 INTERNAL CIRCULATION/DISTRIBUTION & PROJECT TRAFFIC (EXISTING CONDITIONS)

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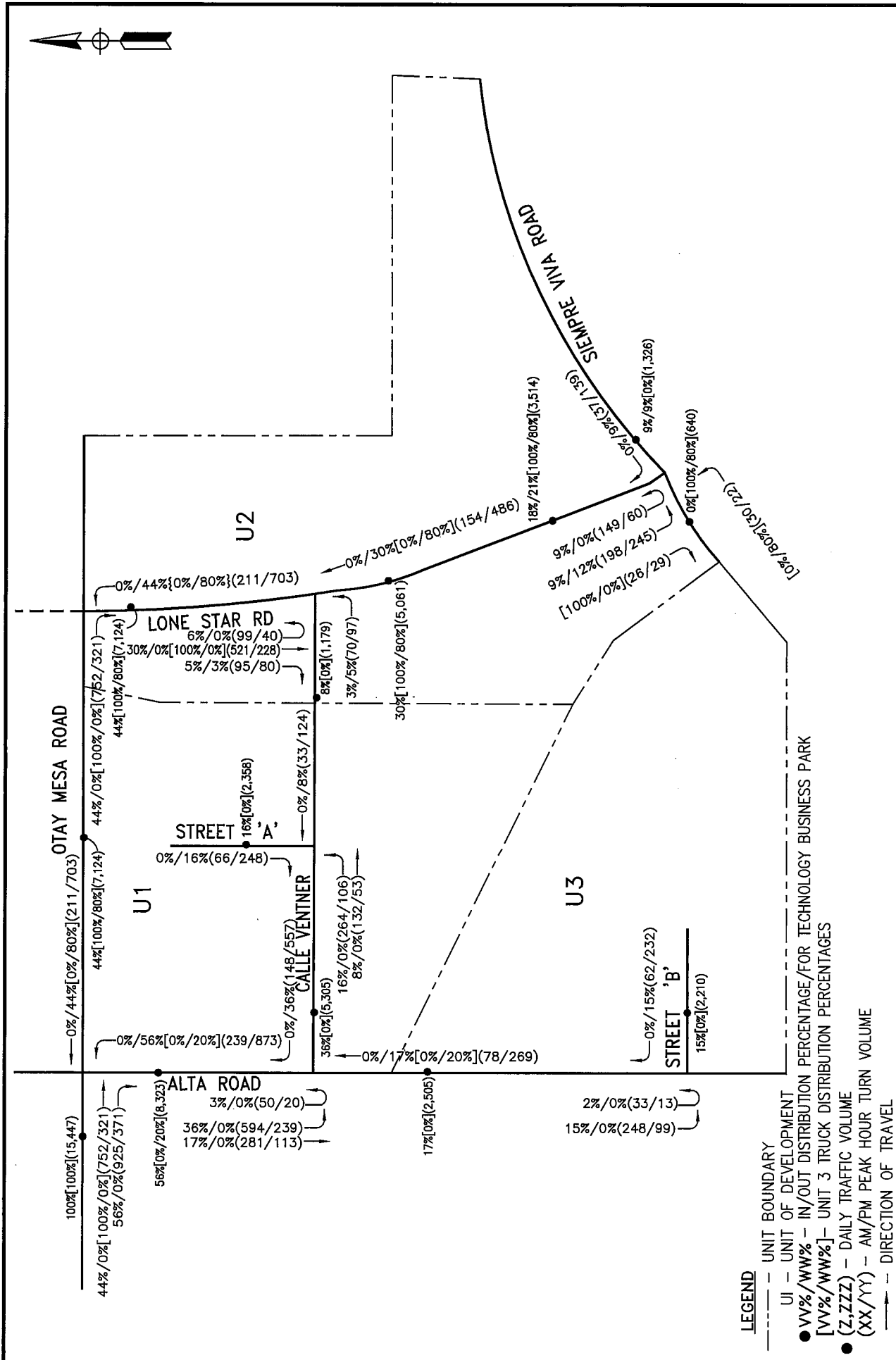
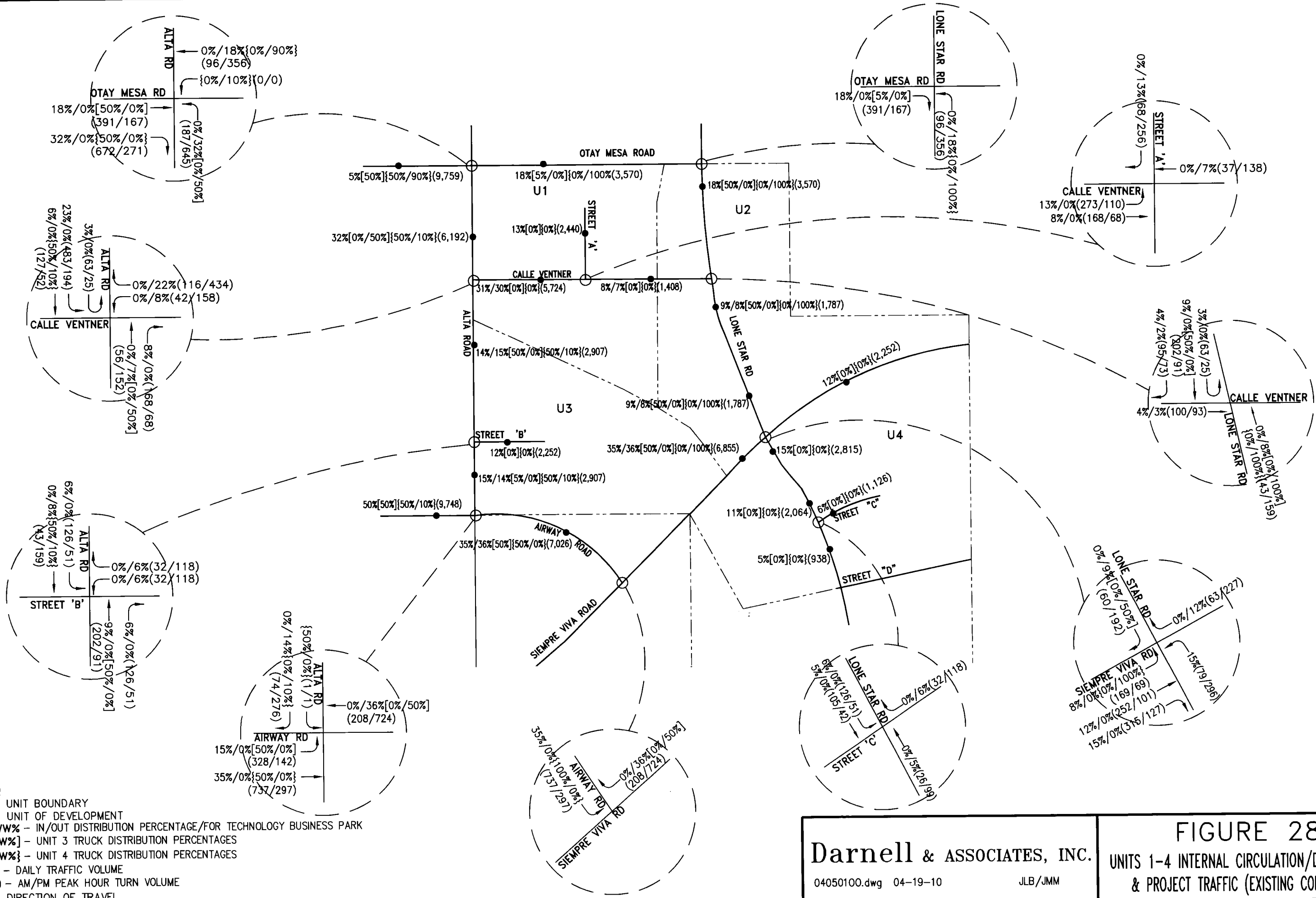


FIGURE 27

UNITS 1-3 INTERNAL CIRCULATION/DISTRIBUTION & PROJECT TRAFFIC (EXISTING CONDITIONS)

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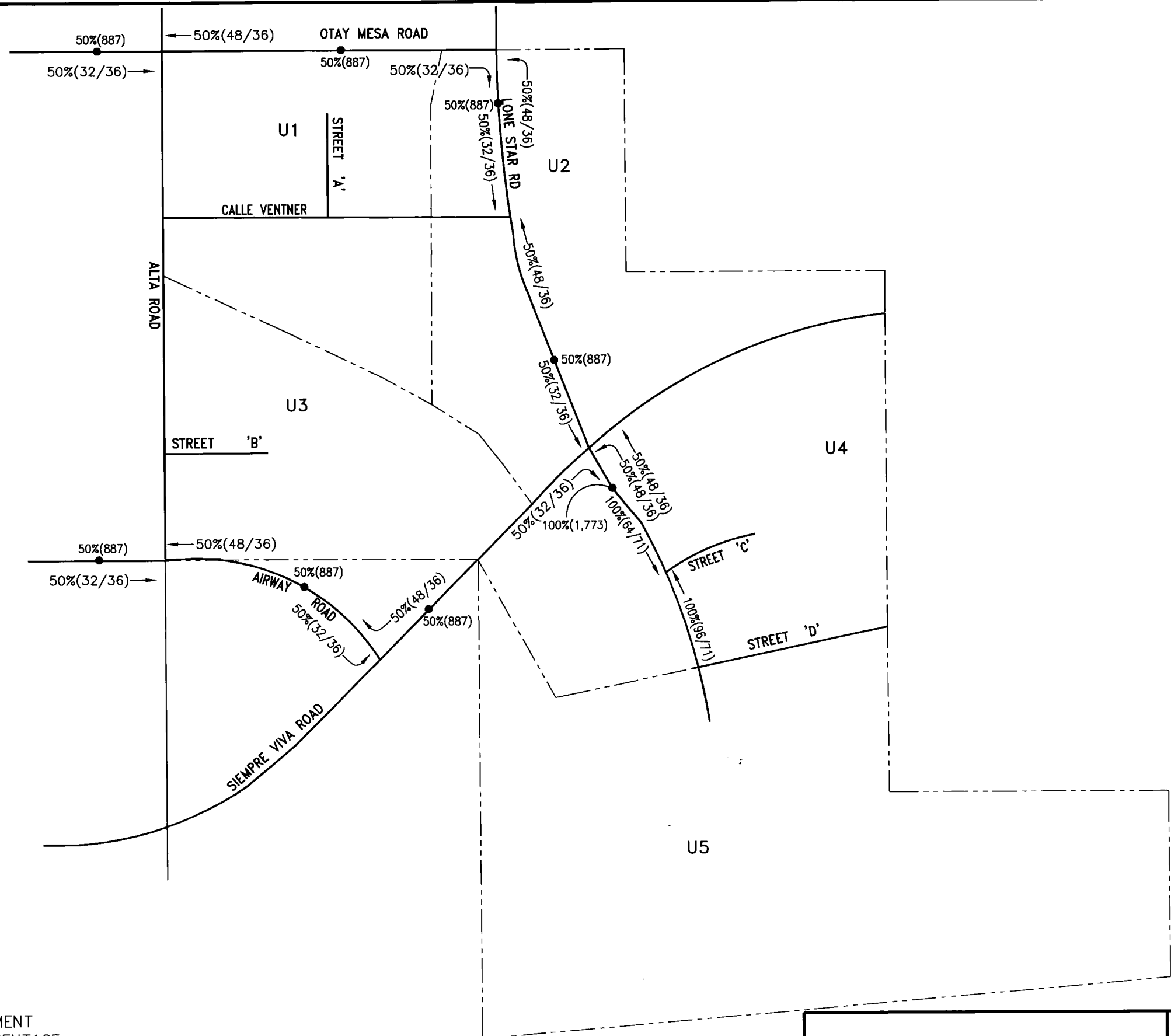
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LEGEND
----- UNIT BOUNDARY
UI - UNIT OF DEVELOPMENT
● VV%/WW% - IN/OUT DISTRIBUTION PERCENTAGE/FOR TECHNOLOGY BUSINESS PARK
[VV%/WW%] - UNIT 3 TRUCK DISTRIBUTION PERCENTAGES
{VV%/WW%} - UNIT 4 TRUCK DISTRIBUTION PERCENTAGES
● (Z,ZZZ) - DAILY TRAFFIC VOLUME
(XX/YY) - AM/PM PEAK HOUR TURN VOLUME
→ - DIRECTION OF TRAVEL

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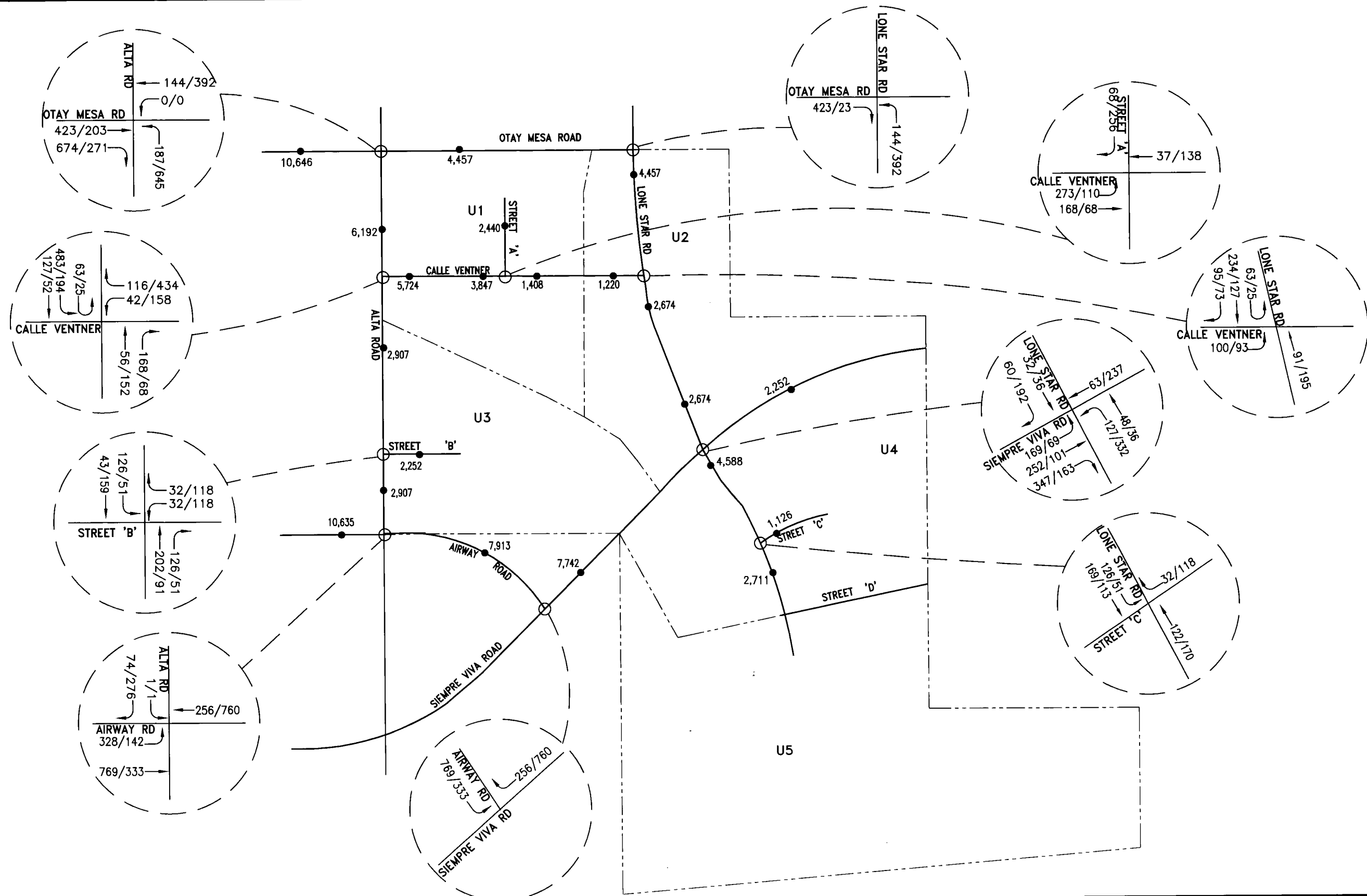
FIGURE 28
UNITS 1-4 INTERNAL CIRCULATION/DISTRIBUTION
& PROJECT TRAFFIC (EXISTING CONDITIONS)



- LEGEND**
- UNIT BOUNDARY
 - UI - UNIT OF DEVELOPMENT
 - WW% - DISTRIBUTION PERCENTAGE
 - Z,ZZZ - DAILY TRAFFIC VOLUME
 - XX/YY - AM/PM PEAK HOUR TURN VOLUME
 - - DIRECTION OF TRAVEL

Darnell & ASSOCIATES, INC.
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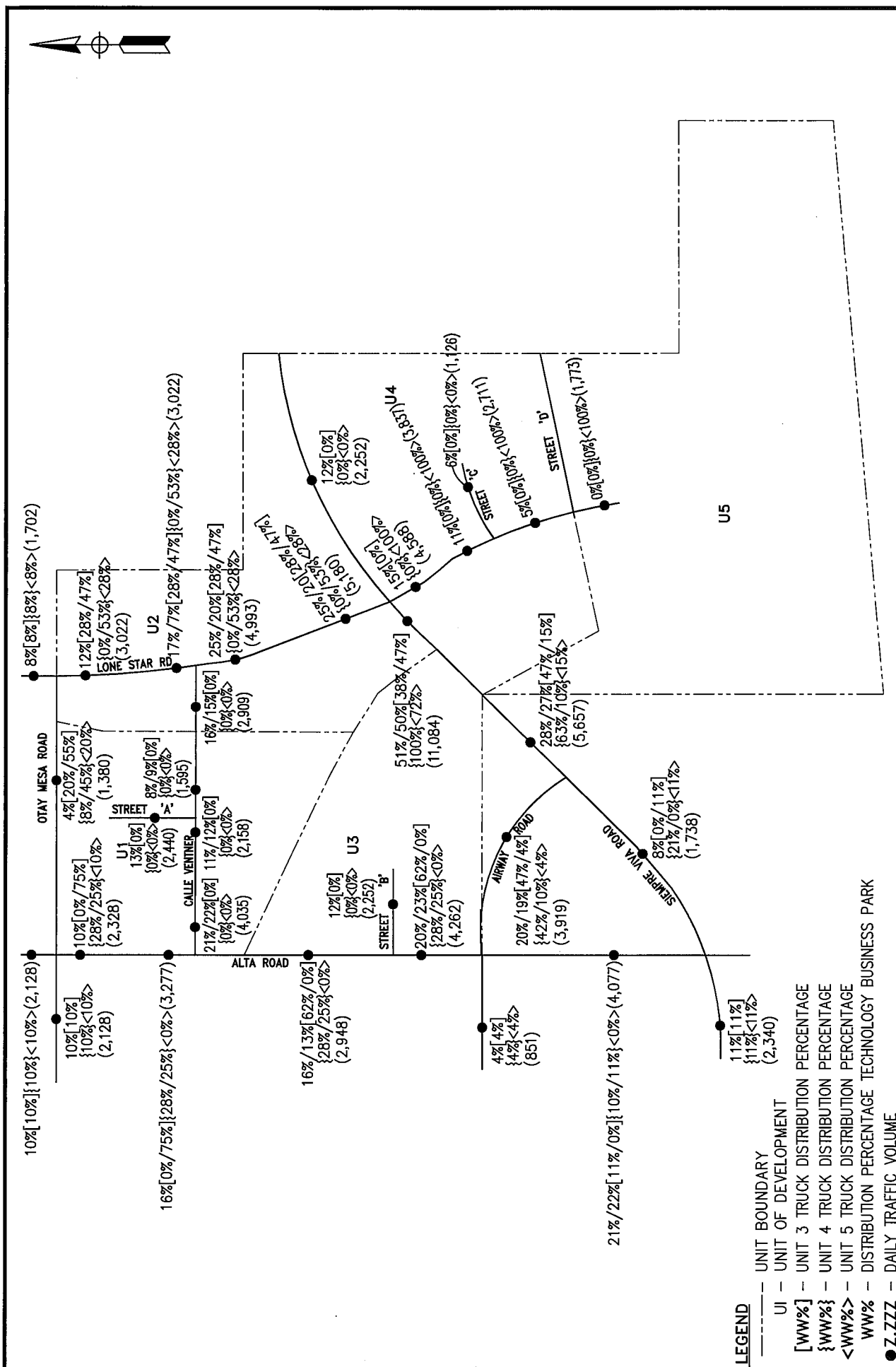
FIGURE 29
UNIT 5 ONLY INTERNAL CIRCULATION/DISTRIBUTION
& PROJECT TRAFFIC (EXISTING CONDITIONS)



LEGEND

- UNIT BOUNDARY
- UI - UNIT OF DEVELOPMENT
- Z,ZZZ - DAILY TRAFFIC VOLUME
- XX/YY - AM/PM PEAK HOUR TURN VOLUME
- - DIRECTION OF TRAVEL

Darnell & ASSOCIATES, INC.	FIGURE 30
	UNITS 1-5 INTERNAL CIRCULATION PROJECT RELATED
	TRAFFIC VOLUMES (EXISTING CONDITIONS)
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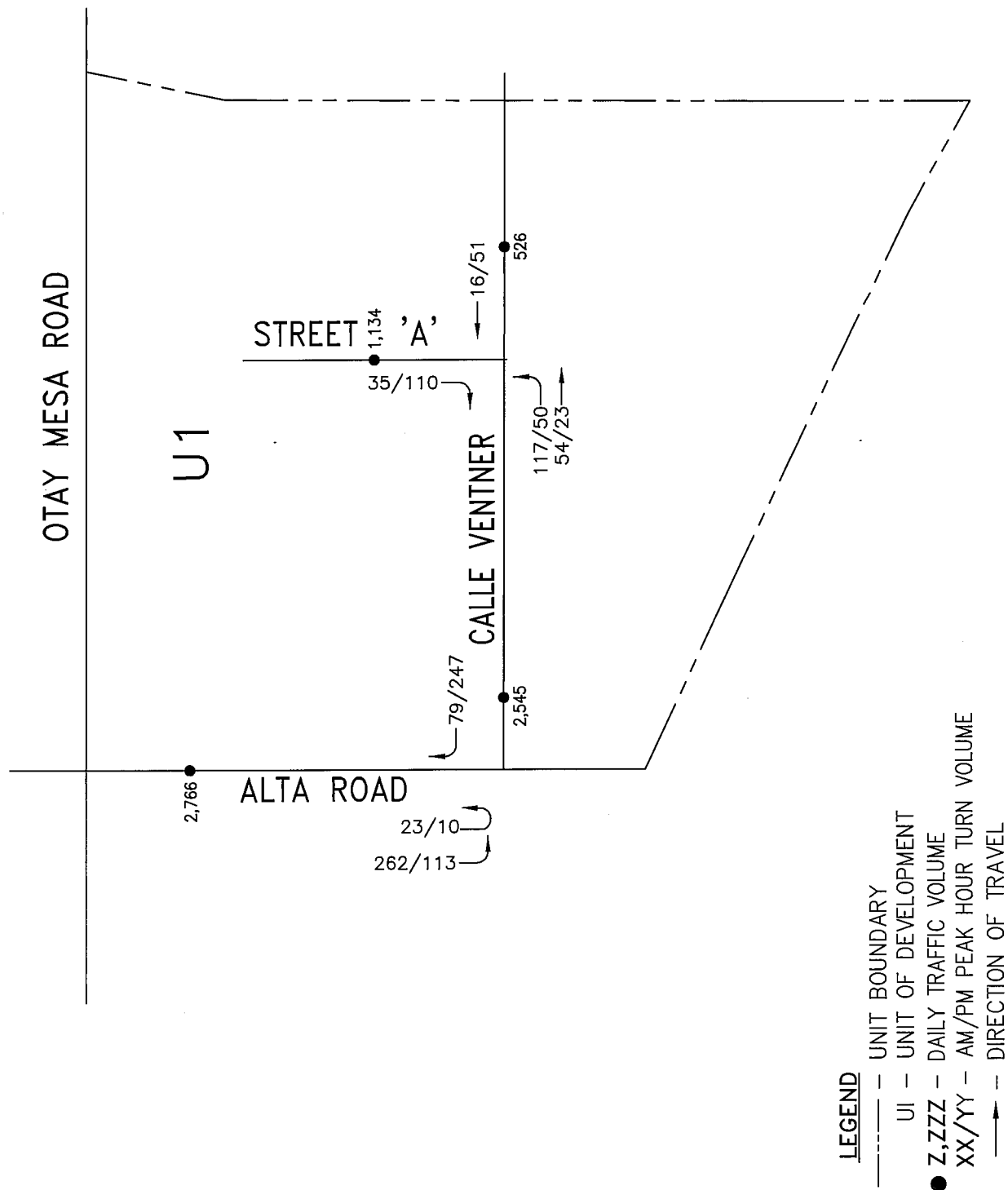


FIGURE 32

CUMULATIVE (YEAR 2020) W/ SR-905 [PHASES 1A & 1B] INTERNAL TRAFFIC VOLUMES

Darnell & ASSOCIATES, INC.

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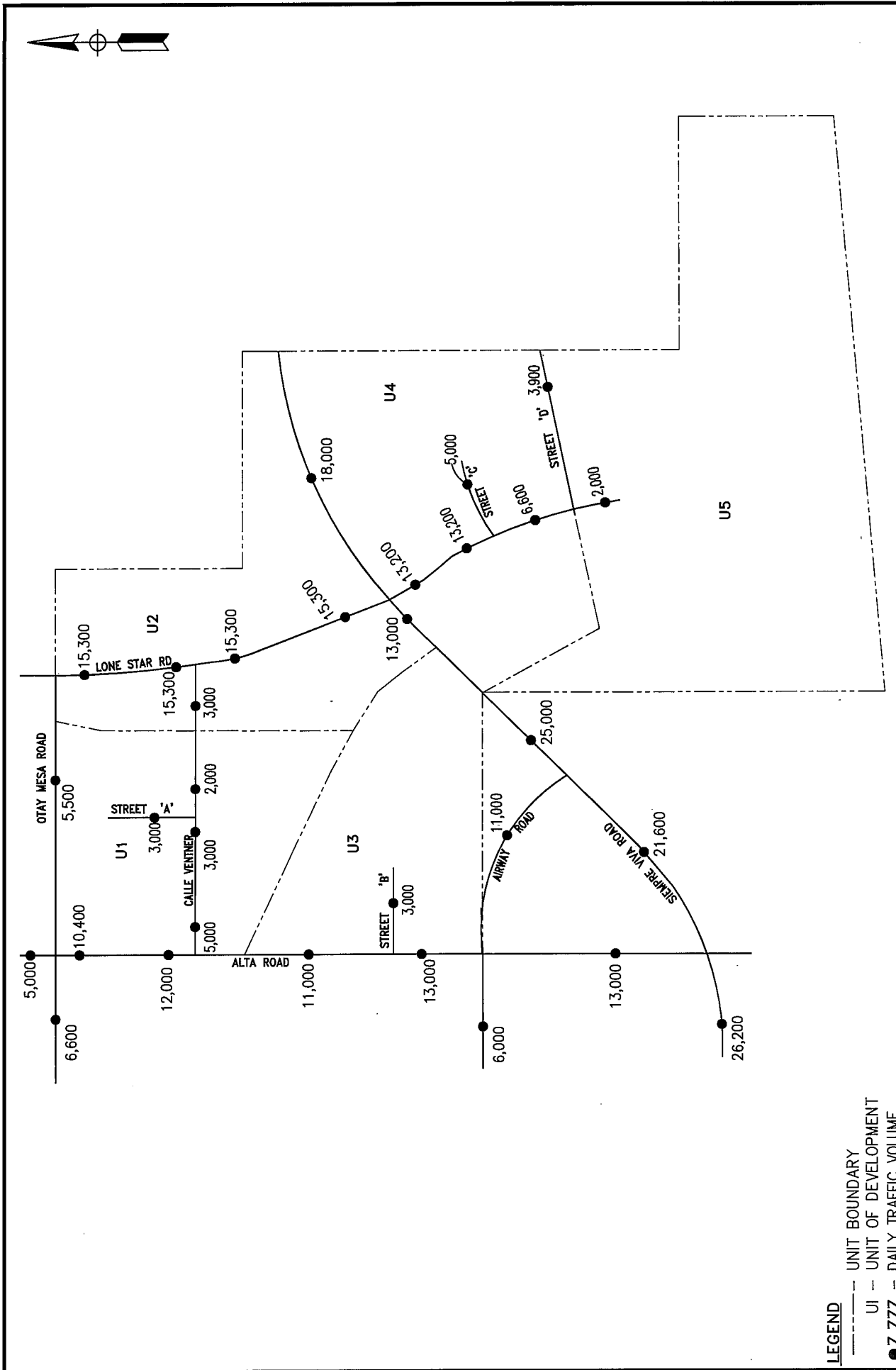


FIGURE 33
2030 + UNITS 1-5 INTERNAL TRAFFIC VOLUMES

It should be noted that the segments of Otay Mesa Road between Alta Road and Lone Star Road, Siempre Viva Road between Airway Road and Lone Star Road, Alta Road between Otay Mesa Road and Airway Road, and Lone Star Road between Otay Mesa Road and its terminus are classified as bike routes with class two bike lanes. Since no parking is provided along these roadways, no additional right-of-way is required to accommodate the bike-lanes.

The project proposes construction of various on-site and off-site roadways within the project; the classification at 2030 is provided in Table 36. Table 36 also provides the roadway improvements required to facilitate the project's access under existing plus each unit of development and 2030 conditions in order to maintain an acceptable LOS at all on-site circulation element roads. It should be noted that Street 'C', Street 'D', and the extension of Siempre Viva Road have been provided to provide access to the adjacent properties to the east of the project. The Subarea 2 Otay Mesa Specific Plan designated these areas as residential with a density of 1 dwelling unit per twenty acres.

The site plan shown in Figure 2, provided in Section I, identifies the approximate location of the driveways for each of the lots. The exact driveway locations will be refined once the project moves further along in the design process.

Table 38 provides a summary of the existing plus project levels of service at the internal roadways. As shown in Table 38, all internal roadways will operate at an acceptable LOS D or better if designed based on the recommendations summarized in Table 37 under existing plus each unit of development.

It should be noted that as shown in Figure 2, Section I, Street 'A' and Street 'B' end with cul-de-sacs. Per the County of San Diego's Public Road Standards, the recommended capacity for LOS C for a two (2) - lane industrial/commercial cul-de-sac is 1,000 ADT. Due to the projected volumes on Street 'A' and Street 'B' it is recommended that the applicant design/construct Street 'A' and Street 'B' to the standards of a two (2) - lane industrial/commercial collector as shown in Table 37.

Internal – Intersections

The following intersections were analyzed under existing conditions plus each unit of development, conditions to determine the required lane configurations and traffic control needed to provide acceptable levels of service:

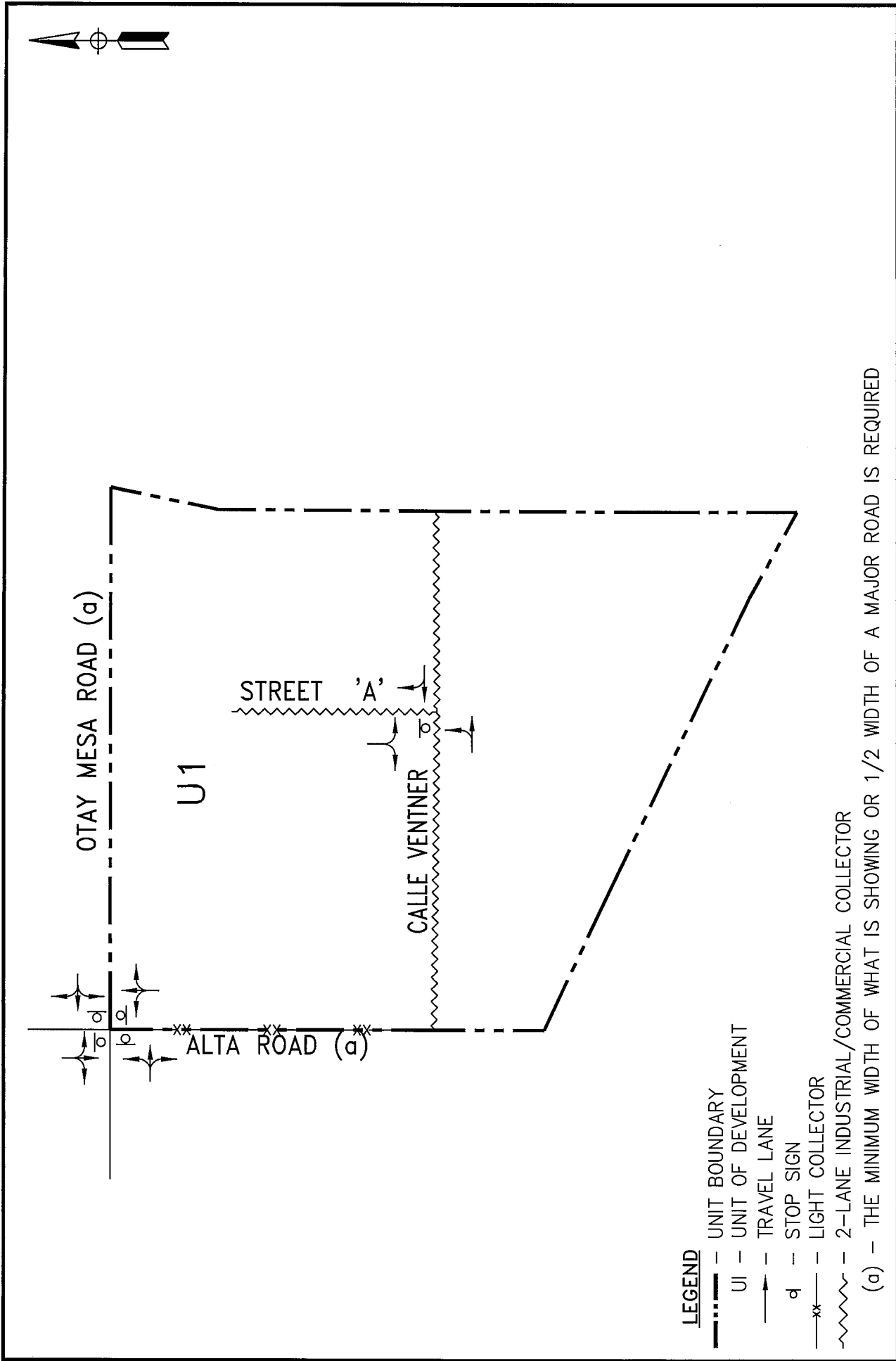
- Otay Mesa Road/Paseo De La Fuente-Lone Star Road;
- Airway Road/Alta Road ^(a);
- Siempre Viva Road/Alta Road ^(a);
- Siempre Viva Road/Airway Road;
- Siempre Viva Road/Lone Star Road;
- Alta Road/Calle Ventner;
- Alta Road/Street 'B';
- Lone Star Road/Calle Ventner;
- Lone Star Road/Street 'C';
- Lone Star Road/Street 'D'; and
- Calle Ventner/Street 'A'.

(a) These intersections are located adjacent to the project, but are located off-site

Table 37 – Summary of On-Site & Off-Site Roadway Segment Improvements						
Roadway Segment	Existing Plus Project Conditions					Ultimate Classification Per EOMSP
	Unit 1	Units 1-2	Units 1-3	Units 1-4	Units 1-5	
Off-Site Roadway Segments						
Otay Mesa Road						
Alta to Lone Star Rd	N/A	LC	TC	TC	TC	4M
Alta Road						
Otay Mesa to Calle Ventner	LC	LC	TC	TC	TC	4M
Calle Ventner to Street 'B'	N/A	N/A	LC	LC	LC	4M
Street 'B' to Airway	N/A	N/A	N/A	LC	LC	4M
Airway to Siempre Viva	N/A	N/A	N/A	N/A	N/A	4M
Airway Road						
Alta to Siempre Viva	N/A	N/A	N/A	LC	LC	4M
On-Site Roadway Segments						
Lone Star Road						
Otay Mesa to Calle Ventner	N/A	LC	TC	TC	TC	4M
Calle Ventner to Siempre Viva	N/A	LC	LC	LC	LC	4M
Siempre Viva to Street 'C'	N/A	N/A	N/A	2 I/C	LC	4M
South of Street 'C'	N/A	N/A	N/A	2 I/C	2 I/C	4M
Calle Ventner						
Alta to Street 'A'	2 I/C ^(a)	2 I/C ^(a)	2 I/C ^(a)	2 I/C ^(a)	2 I/C ^(a)	Non-CE (2 I/C ^(a))
Street 'A' to Lone Star	2 I/C ^(a)	2 I/C ^(a)	2 I/C ^(a)	2 I/C ^(a)	2 I/C ^(a)	Non-CE (2 I/C ^(a))
Siempre Viva Road						
Alta to Airway	N/A	N/A	N/A	N/A	N/A	4M
Airway to Lone Star	N/A	N/A	2 I/C	LC	LC	4M
East of Lone Star Rd	N/A	2 I/C	2 I/C	2 I/C	2 I/C	4M
Street 'A'						
North of Calle Ventner	2 I/C	2 I/C	2 I/C	2 I/C	2 I/C	Non-CE (2 I/C)
Street 'B'						
East of Alta	N/A	N/A	2 I/C	2 I/C	2 I/C	Non-CE (2 I/C)
Street 'C'						
East of Lone Star	N/A	N/A	N/A	2 I/C	2 I/C	Non-CE (LC)
EOMSP = East Otay Mesa Specific Plan; 4M = 4-lane Major Road; 4C = 4-Lane Collector Road; TC = Town Collector; LC = Light Collector; 2- I/C = 2-Lane Industrial Commercial Collector; Non CE = Non Circulation Element Road; N/A = Not Applicable because this roadway segment will not be constructed until a later Unit of development						
(a) The roadway classification is a 2-lane Industrial/Commercial Collector with the capacity equivalent to that of a Light Collector.						

Table 38 – Existing + Project Off-Site/On-Site Roadway Segment Daily LOS Summary				
Roadway Segment	Recommended Classification	Capacity (LOS E)	ADT	LOS
Existing + Project Unit 1				
Alta Road Otay Mesa Rd to Calle Ventner	Light Collector	16,200	6,192	C
Calle Ventner Alta Rd to Street 'A'	2L Industrial/Commercial Collector	16,200 ^(b)	5,697	C
East of Street 'A'	2L Industrial/Commercial Collector	16,200 ^(b)	1,176	A
Street 'A' North of Calle Ventner	2L Industrial/Commercial Collector	4,500	2,539	<C
Existing + Project Units 1-2				
Otay Mesa Road Alta Rd to Lone Star Rd	Light Collector	16,200	6,707	C
Siempre Viva Road East of Lone Star Rd	2L Industrial/Commercial Collector	4,500	1,329	<C
Alta Road Otay Mesa Rd to Calle Ventner	Light Collector	16,200	5,377	C
Lone Star Road Otay Mesa Rd to Calle Ventner	Light Collector	16,200	6,707	C
Calle Ventner to Siempre Viva Rd	Light Collector	16,200	4,350	C
Calle Ventner Alta Rd to Street 'A'	2L Industrial/Commercial Collector	16,200 ^(b)	4,894	C
Street 'A' to Lone Star Rd	2L Industrial/Commercial Collector	16,200 ^(b)	1,752	A
Street 'A' North of Calle Ventner	2L Industrial/Commercial Collector	4,500	2,296	<C
Existing + Project Units 1-3				
Otay Mesa Road Alta Rd to Lone Star Rd	Town Collector	19,000	7,124	C
Siempre Viva Road West of Lone Star Rd	2L Industrial/Commercial Collector	1,000	640	<C
East of Lone Star Rd	2L Industrial/Commercial Collector	4,500	1,326	<C
Alta Road Otay Mesa Rd to Calle Ventner	Town Collector	19,000	8,323	C
Calle Ventner to Street 'B'	Light Collector	16,200	2,505	B
Lone Star Road Otay Mesa Rd to Calle Ventner	Town Collector	19,000	7,124	C
Calle Ventner to Siempre Viva Rd	Light Collector	16,200	5,061	C
Calle Ventner Alta Rd to Street 'A'	2L Industrial/Commercial Collector	16,200 ^(b)	5,305	C
Street 'A' to Lone Star Rd	2L Industrial/Commercial Collector	16,200 ^(b)	1,179	A
Street 'A' North of Calle Ventner	2L Industrial/Commercial Collector	4,500	2,358	<C
Street 'B' East of Alta Rd	2L Industrial/Commercial Collector	4,500	2,210	<C
County = Capacity of County segments is based on the upper limits of LOS E per the County of San Diego; ADT= Average Daily Traffic; LOS= Level of Service; <C Operates at better than LOS C; >C Operates over recommended capacity for LOS C (a) Levels of Service are typically not applied to industrial/commercial collector roads. The capacity shown here is the recommended capacity to maintain LOS C (b) The roadway classification is a 2-lane Industrial Commercial Collector with the equivalence capacity of a Light Collector.				

Table 38 (Continued) – Existing + Project Off-Site/On-Site Roadway Segment Daily LOS Summary				
Roadway Segment	Recommended Classification	Capacity (LOS E)	ADT	LOS
Existing + Project Units 1-4				
Otay Mesa Road Alta Rd to Lone Star Rd	Town Collector	19,000	3,570	B
Airway Road Alta Rd to Siempre Viva Rd	Light Collector	16,200	7,026	C
Siempre Viva Road Airway Rd to Lone Star Rd	Light Collector	16,200	6,855	C
East of Lone Star Rd	2L Industrial/Commercial Collector	4,500	2,252	<C
Alta Road Otay Mesa Rd to Calle Ventner	Town Collector	19,000	6,192	C
Calle Ventner to Street 'B'	Light Collector	16,200	2,907	B
Street 'B' to Airway Rd	Light Collector	16,200	2,907	B
Lone Star Road Otay Mesa Rd to Calle Ventner	Town Collector	19,000	3,570	B
Calle Ventner to Siempre Viva Rd	Light Collector	16,200	1,787	A
Siempre Viva Rd to Street 'C'	2L Industrial/Commercial Collector	4,500	2,815	<C
South of Street 'C'	2L Industrial/Commercial Collector	4,500	938	<C
Calle Ventner Alta Rd to Street 'A'	2L Industrial/Commercial Collector	16,200 ^(b)	5,724	C
Street 'A' to Lone Star Rd	2L Industrial/Commercial Collector	16,200 ^(b)	1,408	A
Street 'A' North of Calle Ventner	2L Industrial/Commercial Collector	4,500	2,440	<C
Street 'B' East of Alta Rd	2L Industrial/Commercial Collector	4,500	2,252	<C
Street 'C' East of Lone Star Rd	2L Industrial/Commercial Collector	4,500	1,126	<C
Existing + Project Build-Out (Units 1-5)				
Otay Mesa Road Alta Rd to Lone Star Rd	Town Collector	19,000	4,457	B
Airway Road Alta Rd to Siempre Viva Rd	Light Collector	16,200	7,913	D
Siempre Viva Road Airway Rd to Lone Star Rd	Town Collector	19,000	7,742	C
East of Lone Star Rd	2L Industrial/Commercial Collector	4,500	2,252	<C
Alta Road Otay Mesa Rd to Calle Ventner	Town Collector	19,000	6,192	C
Calle Ventner to Street 'B'	Light Collector	16,200	2,907	B
Street 'B' to Airway Rd	Light Collector	16,200	2,907	B
Lone Star Road Otay Mesa Rd to Calle Ventner	Town Collector	19,000	4,457	B
Calle Ventner to Siempre Viva Rd	Light Collector	16,200	2,674	B
Siempre Viva Rd to Street 'C'	4L Industrial/Commercial Collector	13,500	4,588	<C
Street 'C' to Street 'D'	2L Industrial/Commercial Collector	4,500	2,711	<C
South of Street 'D'	2L Industrial/Commercial Collector	4,500	1,773	<C
Calle Ventner Alta Rd to Street 'A'	2L Industrial/Commercial Collector	16,200 ^(b)	5,724	C
Street 'A' to Lone Star Rd	2L Industrial/Commercial Collector	16,200 ^(b)	1,408	A
Street 'A' North of Calle Ventner	2L Industrial/Commercial Collector	4,500	2,440	<C
Street 'B' East of Alta Rd	2L Industrial/Commercial Collector	4,500	2,252	<C
Street 'C' East of Lone Star Rd	2L Industrial/Commercial Collector	4,500	1,126	<C
County = Capacity of County segments is based on the upper limits of LOS E per the County of San Diego; ADT= Average Daily Traffic; LOS= Level of Service; <C Operates at better than LOS C; >C Operates over recommended capacity for LOS C; I/C = Industrial/Commercial (a) Levels of Service are typically not applied to industrial/commercial collector roads, The capacity shown here is the recommended capacity to maintain LOS C (b) The roadway classification is a 2-lane Industrial Commercial Collector with the equivalence capacity of a Light Collector.				



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FIGURE 34

EXISTING + UNIT 1 CONDITIONS

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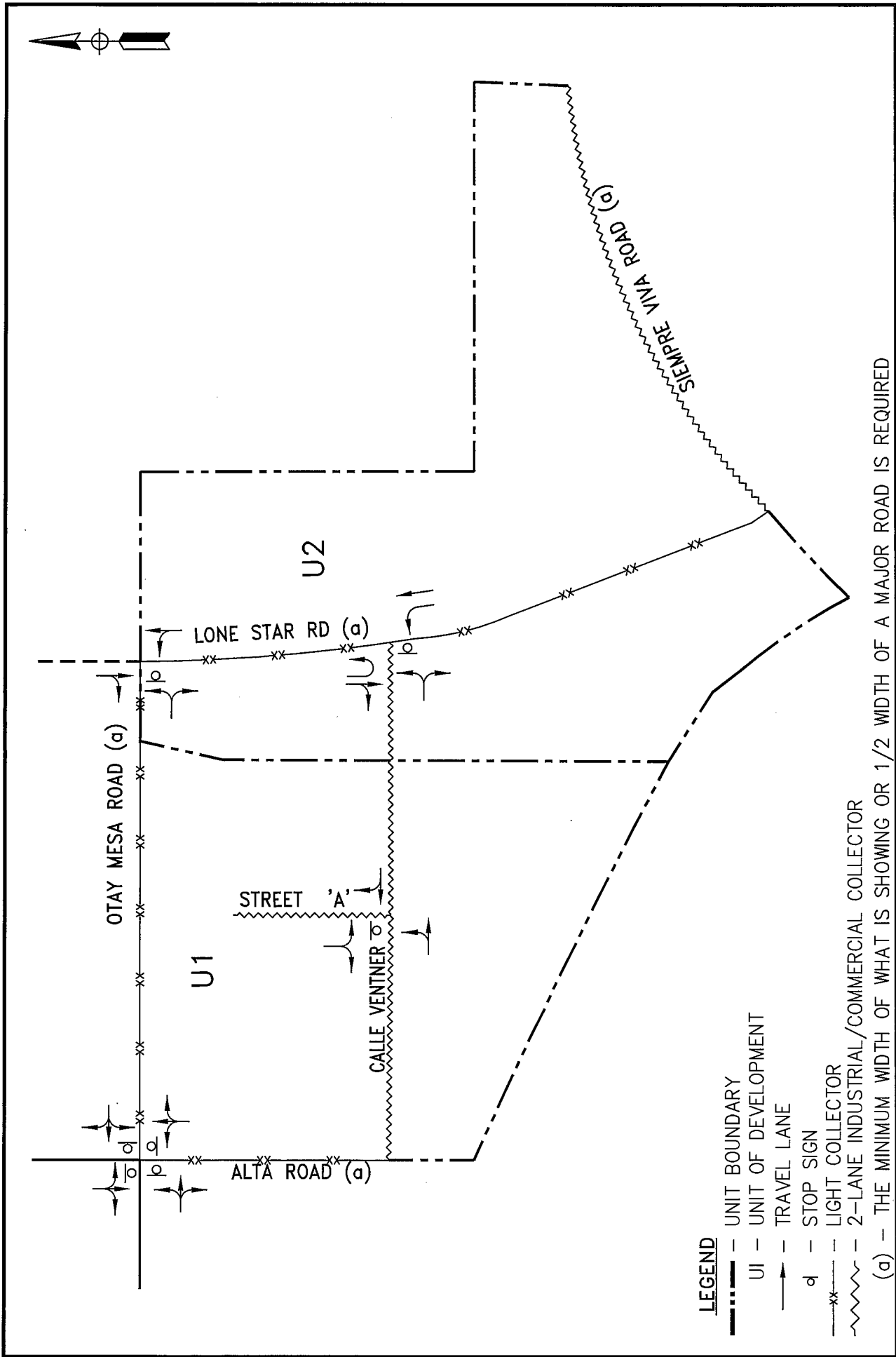


FIGURE 35
EXISTING + UNITS 1-2 CONDITIONS

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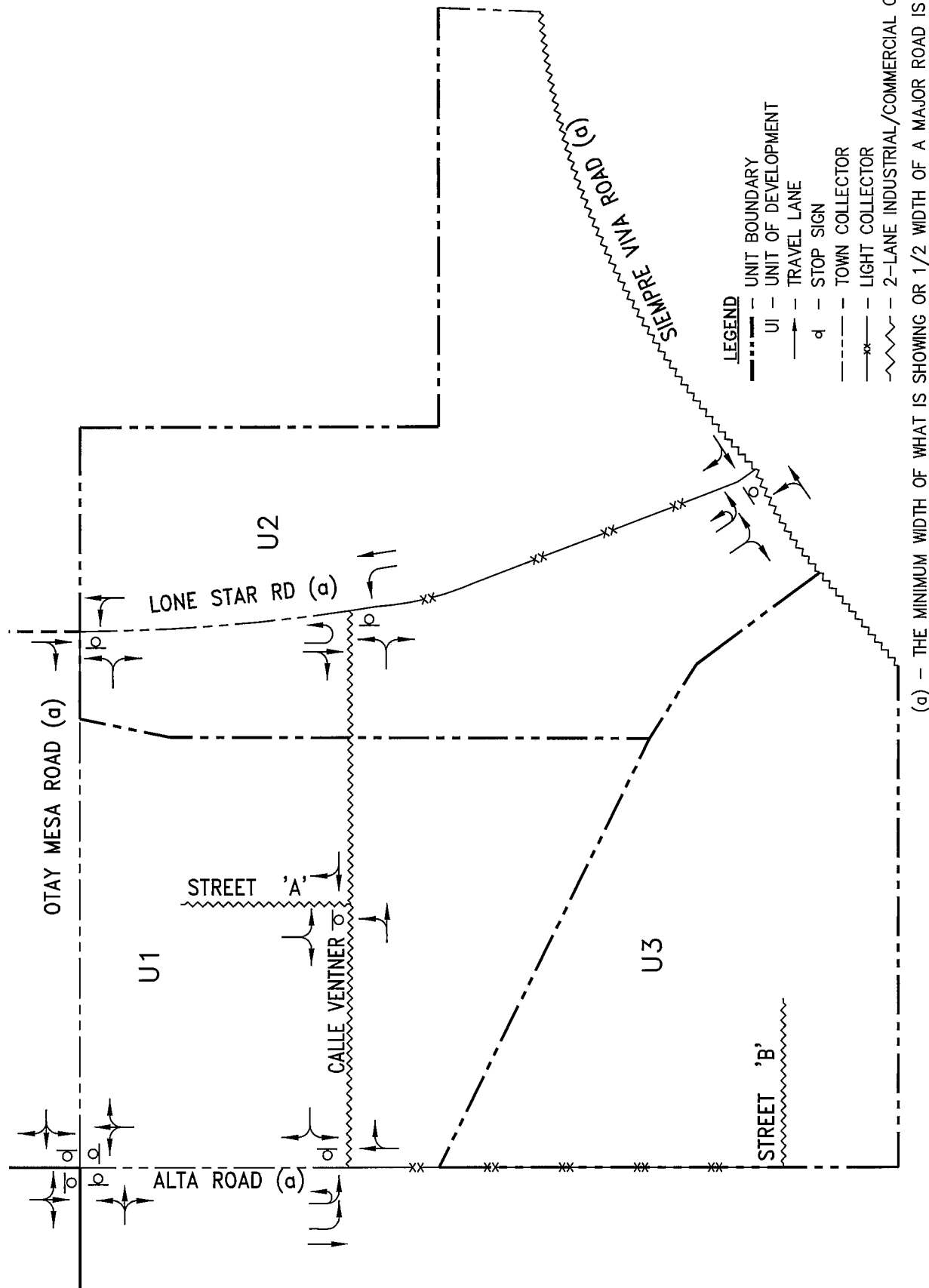
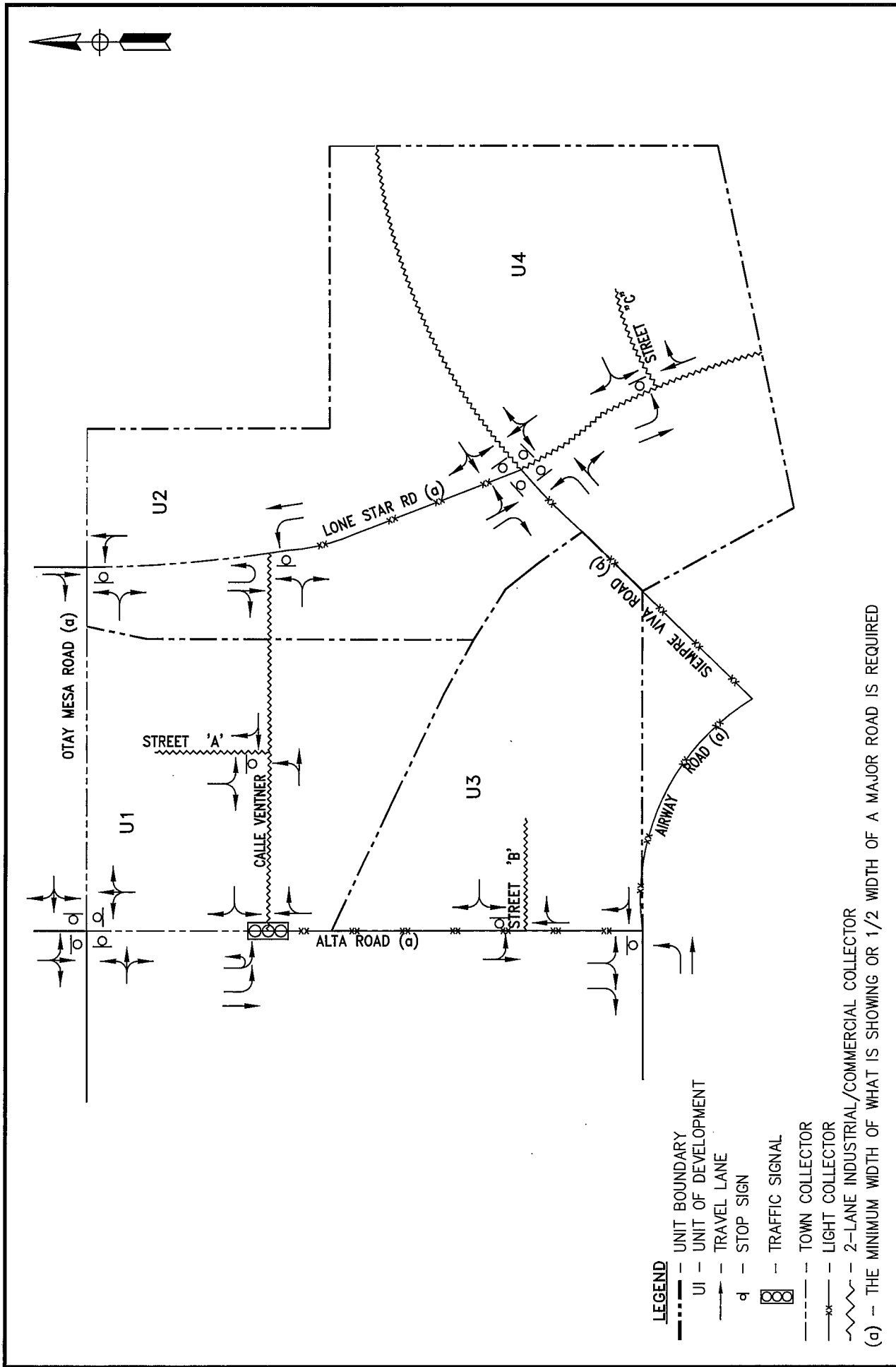


FIGURE 36
EXISTING + UNITS 1-3 CONDITIONS

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FIGURE 37

EXISTING + UNITS 1-4 CONDITIONS

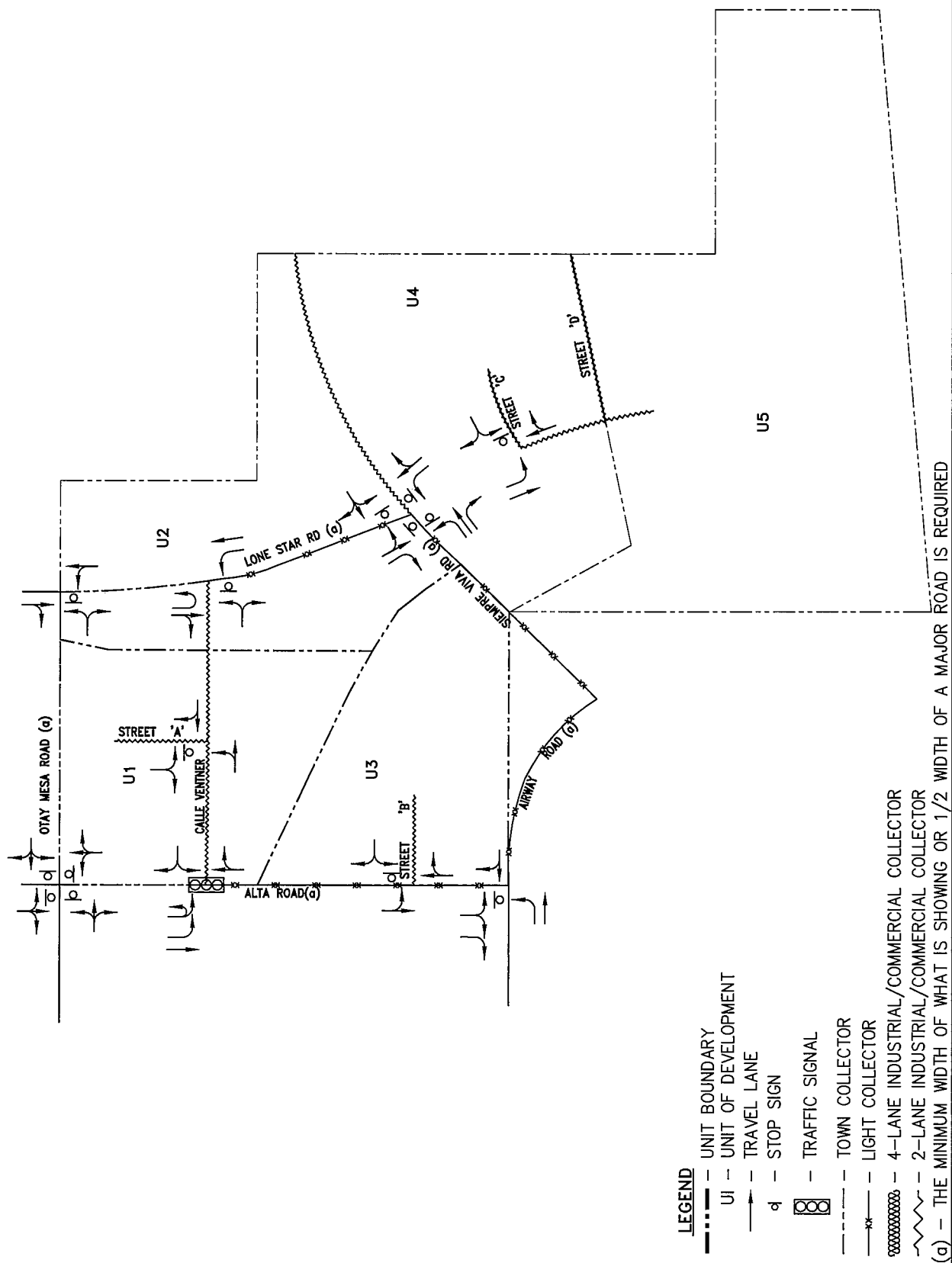


FIGURE 38
EXISTING + UNITS 1-5 CONDITIONS

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Table 39 – Internal Existing + Project Intersection LOS Summary						
Intersection	Traffic Control	Critical Move	AM Peak		PM Peak	
			Delay	LOS	Delay	LOS
Existing + Project Unit 1						
Calle Ventner (E-W) @ Street 'A' (N-S)	OWSC	Southbound	8.8	A	0.0	A
Existing + Project Units 1-2						
Otay Mesa Rd (E-W) @ Paseo De La Fuente-Lone Star Rd (N-S)	OWSC	Eastbound	16.8	C	9.7	A
Lone Star Rd (N-S) @ Calle Ventner (E-W)	OWSC	Eastbound	11.3	B	17.3	C
Calle Ventner (E-W) @ Street 'A' (N-S)	OWSC	Southbound	8.6	A	9.9	A
Existing + Project Units 1-3						
Otay Mesa Rd (E-W) @ Paseo De La Fuente-Lone Star Rd (N-S)	OWSC	Eastbound	17.7	C	9.9	A
Alta Rd (N-S) @ Calle Ventner (E-W)	OWSC	Westbound	9.4	A	27.0	D
Lone Star Rd (N-S) @ Calle Ventner (E-W)	OWSC	Eastbound	10.6	B	15.3	C
Lone Star Rd (N-S) @ Siempre Viva Rd (E-W)	OWSC	Southbound	9.6	A	10.0	A
Calle Ventner (E-W) @ Street 'A' (N-S)	OWSC	Southbound	8.7	A	10.6	B
Existing + Project Units 1-4						
Otay Mesa Rd (E-W) @ Paseo De La Fuente-Lone Star Rd (N-S)	OWSC	Eastbound	10.4	B	9.0	A
Alta Rd (N-S) @ Calle Ventner (E-W)	Signalized	Intersection	17.9	C	23.1	C
Alta Rd (N-S) @ Street 'B'	OWSC	Westbound	12.9	B	12.9	B
Alta Rd (N-S) @ Airway Rd (E-W)	OWSC	Southbound	10.3	B	20.6	C
Lone Star Rd (N-S) @ Calle Ventner (E-W)	OWSC	Eastbound	9.9	A	10.7	B
Lone Star Rd (N-S) @ Siempre Viva Rd (E-W)	AWSC	Eastbound	20.1	C	12.5	B
		Westbound	9.6	A	16.5	C
		Northbound	10.9	B	20.3	C
		Southbound	8.5	A	11.7	B
		Intersection	17.9	C	15.6	C
Lone Star Rd (N-S) @ Street 'C' (E-W)	OWSC	Westbound	8.6	A	9.4	A
Calle Ventner (E-W) @ Street 'A' (N-S)	OWSC	Southbound	8.8	A	10.8	B
Existing + Project Build Out (Units 1-5)						
Otay Mesa Rd (E-W) @ Paseo De La Fuente-Lone Star Rd (N-S)	OWSC	Eastbound	10.7	B	9.2	A
Alta Rd (N-S) @ Calle Ventner (E-W)	Signalized	Intersection	11.5	B	23.1	C
Alta Rd (N-S) @ Street 'B'	OWSC	Westbound	12.9	B	12.9	B
Alta Rd (N-S) @ Airway Rd (E-W)	OWSC	Southbound	10.8	B	22.0	C
Lone Star Rd (N-S) @ Calle Ventner (E-W)	OWSC	Eastbound	10.3	B	11.0	B
Lone Star Rd (N-S) @ Siempre Viva Rd (E-W)	AWSC	Eastbound	15.3	C	12.0	B
		Westbound	10.0	B	16.5	C
		Northbound	10.7	B	22.8	C
		Southbound	8.7	A	11.7	B
		Intersection	13.4	B	16.5	C
Lone Star Rd (N-S) @ Street 'C' (E-W)	OWSC	Westbound	9.1	A	9.9	A
Calle Ventner (E-W) @ Street 'A' (N-S)	OWSC	Southbound	8.8	A	10.8	B
Delay is measured in seconds/vehicle; LOS=Level of Service; sig=signalized; AWSC = All-Way Stop-Controlled; TWSC = Two-Way Stop-Controlled; OWSC=One Way Stop Controlled; sig – Signalized; Int = Intersection; E-W = East-West Roadway; N-S = North-South Roadway						

Delay is measured in seconds/vehicle; LOS=Level of Service; sig=signalized; AWSC = All-Way Stop-Controlled; TWSC = Two-Way Stop-Controlled; OWSC=One Way Stop Controlled; sig – Signalized; Int = Intersection; E-W = East-West Roadway; N-S = North-South Roadway

Figures 34 – 38 illustrate the recommended lane configurations and traffic control for the internal intersections under existing plus each unit of development conditions. Dual left turn lanes were provided at all locations where the peak hour turning volume exceeded 300 vehicles. Table 39 provides a summary of the levels of service at the internal intersections. Appendix K provides the Synchro analysis worksheets for the internal intersection analysis for the existing plus project conditions.

As shown in Table 39, all internal intersection will operate at an acceptable LOS C or during both peak hours better under existing plus project conditions with the recommended lane configurations and traffic control illustrated in Figures 34 – 38 for each unit of development.

DRIVEWAY LOCATIONS

The specific layout of the buildings for the proposed project has not yet been designed; however, Figure 2 provided in Section I, does show the approximate location of the driveways for each of the lots within the development. As shown on Figure 2, as currently proposed there will be two (2) driveways on Alta Road between Otay Mesa Road and Calle Ventner and one (1) driveway on Alta Road between Calle Ventner and Street 'B'. Alta Road is a Circulation Element roadway with an ultimate classification of Major Road. Per comments received from the County of San Diego, the Site Planning and Design Guidelines for Subarea 2 (Section 1.2, page 6) do not allow curb cuts off major roads. Thus, the applicant will either need to process a Modification Request to a Road Standard to allow these proposed driveways on Alta Road or revise the site layout to eliminate the proposed driveways on Alta Road.

The site plan shown on Figure 2 in Section I also shows that as currently designed the project proposes to provide five (5) driveways on Lone Star Road between Otay Mesa Road and Calle Ventner; eight (8) driveways on Lone Star Road between Calle Ventner and Siempre Viva Road; two (2) driveways on Lone Star Road between Siempre Viva Road and Street 'C'; one (1) driveway on Lone Star Road south of Street 'C'; one (1) driveway on Siempre Viva Road between Airway Road and Lone Star Road, and five (5) driveways on Siempre Viva Road east of Lone Star Road. Lone Star Road and Siempre Viva Road are on-site Circulation Element Roadways. Per the design requirements for the East Otay Mesa Business Park Specific Plan Sub-Area 2, since these roadways are all circulation element roadways, the driveways must have their centerlines separated by at least 300 feet (300'). All other driveways must have their centerlines separated by at least 200 feet (200').

An illustration of site plan showing the dimensions between the proposed driveways is provided in Appendix M. A review of the spacing of the driveways finds that the two (2) driveways on Lone Star Road just south of Otay Mesa Road (one on the east and west side of the roadway), six (6) of the eight (8) proposed driveways along Lone Star Road between Calle Ventner and Siempre Viva Road, the driveway on Lone Star Road immediately south of Siempre Viva Road, the driveway on Lone Star Road south of Street 'C', and two (2) of the five driveways on Siempre Viva Road east of Lone Star Road do not meet the 300-foot spacing requirement for non-circulation element roads entering circulation element roads. The developer will either need to revise the locations of the proposed driveways, or process a Modification Request to a Road Standard to allow the currently proposed driveway spacing. With the exception of the western most driveway on Calle Ventner, the southernmost driveway on Street 'A', and the driveways proposed on Street 'C' all of the driveways proposed on the internal non-circulation element roadways satisfy the minimum 200-foot spacing requirement for a non-circulation element road entering a non-circulation element road.

SECTION VIII – CONSTRUCTION TRAFFIC

As previously discussed, grading for the proposed project will be completed in two phases. Grading for Phases 1 will comprise of three final maps (Units 1, 2, and 3) and Grading for Phase 2 will comprise of two final maps (Units 4 and 5). At this time, the schedule for the grading of the project site has not been finalized so it is possible Phase 1 and Phase 2 of the grading project could occur back-to-back prior to the development/occupancy of any of the Industrial Units, or it is possible that the first three units of the project (Units 1, 2 and 3) may be constructed and occupied prior to or simultaneously with the Phase 2 grading operation.

The grading for the site was developed such that the cut and fill balanced within the site, thus there is no export or import of materials required. Therefore, the construction activities associated with the grading operation will be minimal (i.e. it would only include the construction employees, inspectors, surveyors, and associated deliveries, etc. coming to/from the site.) The traffic generated Phase 2 of the grading operation, would thus be less than that generated by either Unit 4 (4,059 ADT) or Unit 5 (1,773 ADT) of the proposed project, and therefore, the potential impacts associated with Existing plus Units 1-3 + Phase 2 Grading would be less than those previously identified for Existing + Units 1-4.

SECTION IX – RECOMMENDED TRAFFIC MITIGATION MEASURES

TRANSPORTATION IMPACT FEE (TIF)

The County of San Diego has developed an overall programmatic solution that addresses existing and projected future road deficiencies in the unincorporated portions of San Diego County. This program includes the adoption of a Transportation Impact Fee (TIF) program to fund improvements to roadways necessary to mitigate potential cumulative impacts caused by traffic from future development. Based on SANDAG regional growth and land use forecasts, the SANDAG Regional Transportation Model was utilized to analyze projected build-out (year 2030) development conditions on the existing circulation element roadway throughout the unincorporated area of the County. Based on the results of the traffic modeling, funding necessary to construct transportation facilities that will mitigate cumulative impacts from new development was identified. Existing roadway deficiencies will be corrected through improvement projects funded by other public funding sources, such as TransNet, gas tax and grants. Potential cumulative impacts to the region's freeways have been addressed in SANDAG's Regional Transportation Plan (RTP). This plan, which considers freeway build out over the next 30 years, will use funds from TransNet, state and federal funding to improve freeways to projected level of service objectives in the RTP.

Full build out the project with the truck parking (Units 1-5) is estimated to generate 21,279 average daily trips. These trips will be distributed on circulation element roadways in the County that were analyzed by the TIF program, some of which currently or are projected to operate at inadequate levels of service. The potential growth represented by the proposed project was included in the growth projects upon which the TIF program is based. Therefore, compliance with the County TIF ordinance, which will be required at issuance of building permits, in combination with other components of the program described above, will mitigate potential cumulative traffic impacts to County Circulation Element Roadways to less than significant. The TIF program provides a mechanism for developers to mitigate their cumulative impacts by paying a specified fee for the use that is being proposed.

The County Board of Supervisors adopted the County of San Diego Traffic Impact Fee (TIF) program in April 2005. The TIF Ordinance Update was adopted by the Board of Supervisors on February 27, 2008. The TIF Program Update 2008 has revised the Otay Fee Schedule for non-residential use. It should be noted that the actual traffic impact fees are subject to change as the TIF ordinance is updated annually as the fees are adjusted to reflect the engineering cost index. Compliance with the County TIF ordinance will mitigate any cumulative impact that the project has on the County roadway facilities located within the Otay Sub region and the South TIF region. The project proposes to comply with County's TIF to mitigate the project's local and regional cumulative impacts within the unincorporated area.

COMMUNITY FACILITIES DISTRICT (CFD)

It should be noted that the East Otay Mesa Property Owners Association (EOMPOA) is currently assessing the formation of a Community Facilities District (CFD) to fund roadway improvements necessary in East Otay Mesa. The CFD would include roadway facilities located in both the City and the County of San Diego. If the CFD is established, it could serve as an additional or alternative mechanism to mitigate direct and cumulative impacts of the projects proposed in the East Otay Mesa on a fair-share basis.

DIRECT IMPACTS

Unit 1 Impacts

Unit 1 Direct Impacts – Roadway Segments

As shown in Section IV, Unit 1 of the proposed project exceeds the significance guidelines on the following roadway segments under existing conditions plus Unit 1 of the proposed project:

- Otay Mesa Road (Old Otay Mesa Road) between Sanyo Avenue and Enrico Fermi Drive; and
- Otay Mesa Road (Old Otay Mesa Road) between Enrico Fermi Drive and Alta Road.

Unit 1 Roadway Segments Direct Impacts Recommended Mitigation Measures

Otay Mesa Road between Sanyo Avenue and Enrico Fermi Drive: Prior to recordation of final maps for Unit 1 the applicant shall improve the segment of Otay Mesa Road between Sanyo Avenue and Enrico Fermi Drive to provide a four (4)-lane facility with two (2) lanes in each direction. The segment of Otay Mesa Road between Sanyo Avenue (532 + 00) and the future alignment of Vann Centre Boulevard (STA 549 + 00) will require widening on the north side of the road. The segment of Otay Mesa Road between the future alignment of Vann Centre Boulevard (STA 549 + 00) and Enrico Fermi Drive (STA 572 + 00) will require widening on the north and south side of the road. Striping concepts for the proposed improvements are provided on Sheet 11 in the Preliminary Route Study prepared by Stevens Cresto Engineering, Inc. located in Appendix Q. (See EIR Impact TI-1.)

Otay Mesa Road between Enrico Fermi Drive and Alta Road: Prior to recordation of final maps for Unit 1 the applicant shall re-stripe the segment of Otay Mesa Road from Enrico Fermi Drive (STA 572 + 00) to approximately 1,290 feet (1,290') west of Alta Road (STA 585 + 85) to provide a four (4)-lane facility with two (2) lanes in each direction. Prior to recordation of final maps for Unit 1 the applicant shall widen the north and south side of Otay Mesa Road from approximately 1,290 feet (1,290') west of Alta Road (STA 585 + 85) to Alta Road (STA 599 + 00) to provide a four (4)-lane facility with two (2) lanes in each direction and a painted median. Striping concepts for the proposed improvements are provided in the Preliminary Route Study prepared by Stevens Cresto Engineering, Inc. located in Appendix Q. (See EIR Impact TI-2.)

See Figure 39 for the recommended mitigation measures of the roadway segments for the direct impacts associated with Unit 1 of the proposed project.

Unit 1 Direct Impacts – Intersections

As shown in Section IV, Unit 1 of the proposed project is part of a significant impact at the Otay Mesa Road (Old Otay Mesa Road)/Alta Road intersection under existing conditions plus Unit 1 of the proposed project.

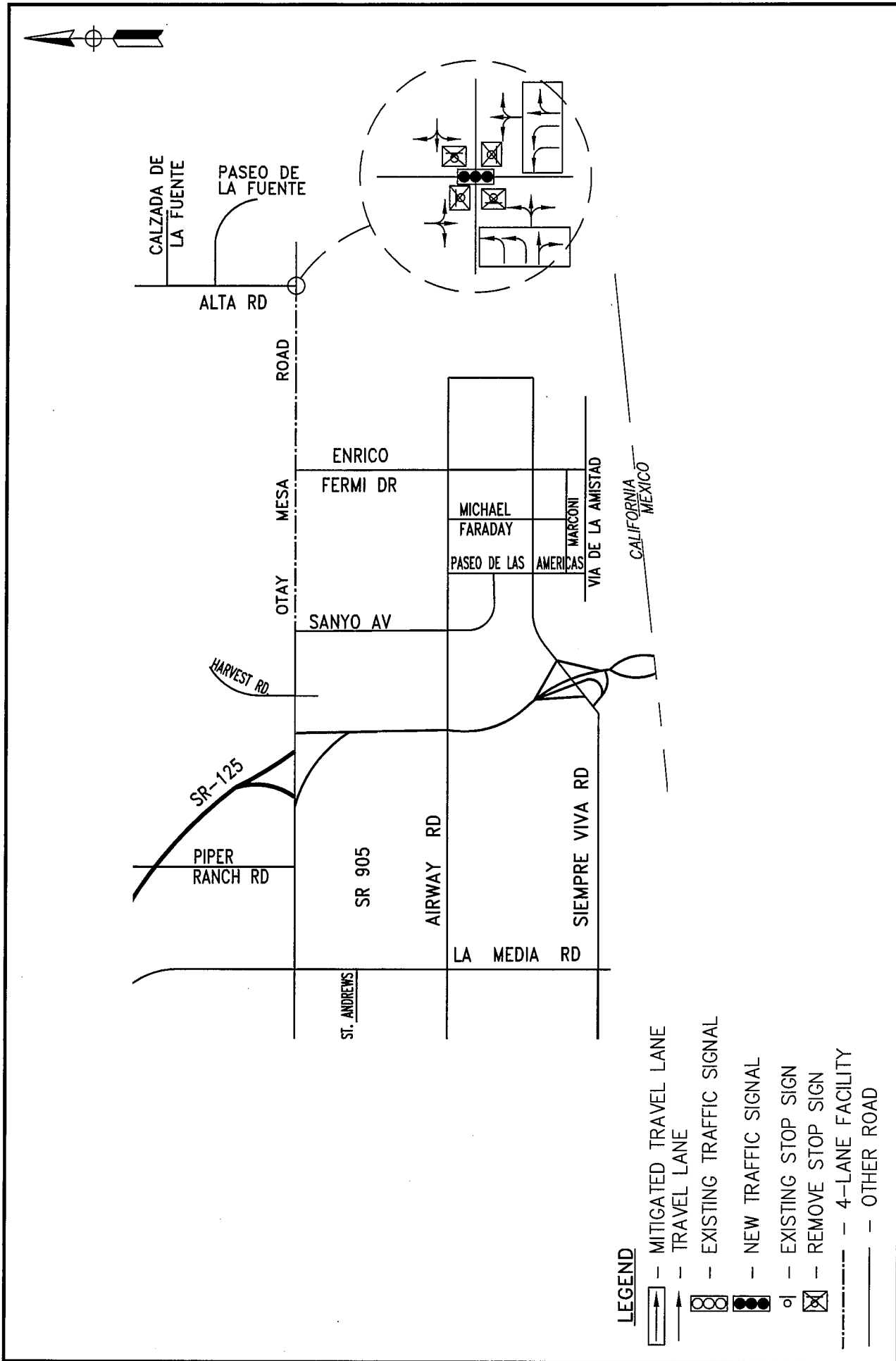


FIGURE 39

RECOMMENDED MITIGATION - EXISTING + UNIT 1

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Unit 1 Intersections Direct Impacts Recommended Mitigation Measures

Otay Mesa Road (Old Otay Mesa Road)/Alta Road: Prior to recordation of final maps for Unit 1, the applicant shall signalize and widen the Otay Mesa Road/Alta Road intersection to provide the following lane configurations:

- Two (2) eastbound left turn lanes;
- One (1) eastbound shared through-right lane;
- One (1) westbound shared left-through-right lane;
- Two (2) northbound left turn lanes;
- One (1) northbound shared through-right lane; and
- One (1) southbound shared left-through-right lane. (See EIR Impact TI-6.)

See Figure 39 for the recommended mitigation measures of the intersection for the direct impacts associated with Unit 1 of the proposed project.

Units 1-2 Impacts

Units 1-2 Direct Impacts – Roadway Segments

As shown in Section IV, Units 1-2 of the proposed project exceeds the significance guidelines on the following roadway segments under existing conditions plus Units 1-2 of the proposed project:

- Otay Mesa Road (Old Otay Mesa Road) between Sanyo Avenue and Enrico Fermi Drive;
- Otay Mesa Road (Old Otay Mesa Road) between Enrico Fermi Drive and Alta Road; and
- Airway Road between the SR-905 and Sanyo Avenue.

Units 1-2 Roadway Segments Direct Impacts Recommended Mitigation Measures

Otay Mesa Road between Sanyo Avenue and Enrico Fermi Drive: The proposed project's mitigation for the direct impacts under existing plus Unit 1 of the proposed project will mitigate the direct impacts under existing plus Units 1-2 of the proposed project. (See EIR Impact TI-1.)

Otay Mesa Road between Enrico Fermi Drive and Alta Road: The proposed project's mitigation for the direct impacts under existing plus Unit 1 of the proposed project will mitigate the direct impacts under existing plus Units 1-2 of the proposed project. (See EIR Impact TI-2.)

Airway Road between the SR-905 and Sanyo Avenue: Prior to recordation of final maps for Unit 2 the applicant shall re-stripe the segment of Airway Road between the SR-905 and Sanyo Avenue to provide a three (3)-lane facility consisting of one (1) eastbound travel lane and two (2) westbound travel lanes. (See EIR Impact TI-3.)

See Figure 40 for the recommended mitigation measures of the roadway segments for the direct impacts associated with Units 1-2 of the proposed project.

Units 1-2 Direct Impacts – Intersections

As shown in Section IV, Units 1-2 of the proposed project is part of a significant impact at the following intersections under existing conditions plus Units 1-2 of the proposed project:

- Otay Mesa Road/Interim SR-905 Connector;
- Otay Mesa Road (Old Otay Mesa Road)/Sanyo Avenue;
- Otay Mesa Road (Old Otay Mesa Road)/Enrico Fermi Drive; and
- Otay Mesa Road (Old Otay Mesa Road)/Alta Road.

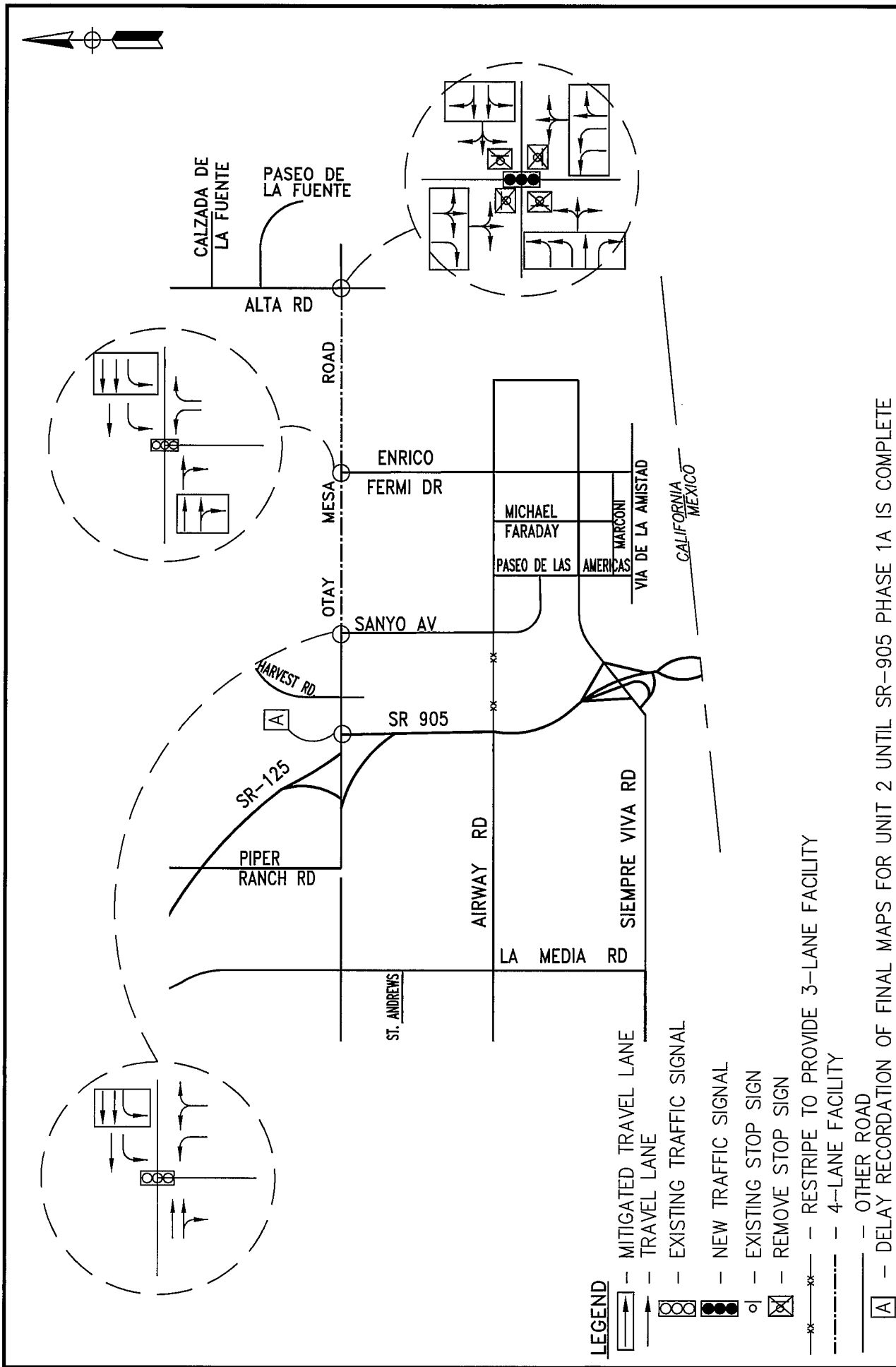


FIGURE 40

RECOMMENDED MITIGATION - EXISTING + UNITS 1-2

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Units 1-2 Intersections Direct Impacts Recommended Mitigation Measures

Otay Mesa Road/Interim SR-905 Connector: The proposed project's mitigation for the direct impacts under existing plus Unit 1 is to delay recordation of final map for Unit 2 until the Otay Mesa Road/Interim SR-905 Connector intersection is eliminated with completion of SR-905 Phase 1A of the proposed project. This will also mitigate the direct impacts under existing plus Units 1-2 of the proposed project. (See EIR Impact TI-7.)

Otay Mesa Road (Old Otay Mesa Road)/Sanyo Avenue: Prior to recordation of final maps for Unit 2, the applicant shall widen the Otay Mesa Road/Sanyo Avenue intersection and modify the existing traffic signal to provide the following lane configurations:

- One (1) eastbound through lane;
- One (1) eastbound through-right lane;
- One (1) westbound left turn lane;
- Two (2) westbound through lanes;
- One (1) northbound left turn lane; and
- One (1) northbound left-right turn lane. (See EIR Impact TI-8.)

Otay Mesa Road (Old Otay Mesa Road)/Enrico Fermi Drive: Prior to recordation of final maps for Unit 2, the applicant shall widen the Otay Mesa Road/Enrico Fermi Drive intersection modify the existing traffic signal to provide the following lane configurations:

- One (1) eastbound through lane;
- One (1) eastbound through-right lane;
- One (1) westbound left turn lane;
- Two (2) westbound through lanes;
- One (1) northbound left turn lane; and
- One (1) northbound right turn lane. (See EIR Impact TI-9.)

Otay Mesa Road (Old Otay Mesa Road)/Alta Road: Prior to recordation of final maps for Unit 2 the applicant shall widen the Otay Mesa Road/Alta Road intersection and modify the traffic signal (which was required to be installed to mitigate Unit 1 direct impacts) to provide the following lane configurations:

- Two (2) eastbound left turn lanes;
- One (1) eastbound through lane;
- One (1) eastbound right turn lane;
- One (1) westbound shared left-through lane;
- One (1) westbound shared through-right lane;
- Two (2) northbound left turn lanes;
- One (1) northbound shared through-right lane;
- One (1) southbound shared left-through-right lane; and
- One (1) southbound right turn lane. (See EIR Impact TI-6.)

See Figure 40 for the recommended mitigation measures of the intersection for the direct impacts associated with Units 1-2 of the proposed project.

Units 1-3 Impacts

Units 1-3 Direct Impacts – Roadway Segments

As shown in Section IV, Units 1-3 of the proposed project exceeds the significance guidelines on the following roadway segments under existing conditions plus Units 1-3 of the proposed project:

- Otay Mesa Road (Old Otay Mesa Road) between Sanyo Avenue and Enrico Fermi Drive;
- Otay Mesa Road (Old Otay Mesa Road) between Enrico Fermi Drive and Alta Road; and
- Airway Road between the SR-905 and Sanyo Avenue.

Units 1-3 Roadway Segments Direct Impacts Recommended Mitigation Measures

Otay Mesa Road between Sanyo Avenue and Enrico Fermi Drive: The proposed project's mitigation for the direct impacts under existing plus Unit 1 of the proposed project will mitigate the direct impacts under existing plus Units 1-3 of the proposed project. (See EIR Impact TI-1.)

Otay Mesa Road between Enrico Fermi Drive and Alta Road: The proposed project's mitigation for the direct impacts under existing plus Unit 1 of the proposed project will mitigate the direct impacts under existing plus Units 1-3 of the proposed project. (See EIR Impact TI-2.)

Airway Road between the SR-905 and Sanyo Avenue: The proposed project's mitigation for the direct impacts under existing plus Units 1-2 of the proposed project will mitigate the direct impacts under existing plus Units 1-3 of the proposed project. (See EIR Impact TI-3.)

See Figure 41 for the recommended mitigation measures of the roadway segments for the direct impacts associated with Units 1-3 of the proposed project.

Units 1-3 Direct Impacts – Intersections

As shown in Section IV, Units 1-3 of the proposed project is part of a significant impact at the following intersections under existing conditions plus Units 1-3 of the proposed project:

- Interim SR-905 (Otay Mesa Road)/Heritage Road;
- Otay Mesa Road/Interim SR-905 Connector;
- Otay Mesa Road (Old Otay Mesa Road)/Sanyo Avenue;
- Otay Mesa Road (Old Otay Mesa Road)/Enrico Fermi Drive; and
- Otay Mesa Road (Old Otay Mesa Road)/Alta Road.

Units 1-3 Intersections Direct Impacts Recommended Mitigation Measures

Interim SR-905 (Otay Mesa Road)/Heritage Road: Delay recordation of final map for Unit 3 until SR-905 Phase 1B is completed. (See EIR Impact TI-10.)

Otay Mesa Road/Interim SR-905 Connector: The proposed project's mitigation for the direct impacts under existing plus Unit 1 to delay recordation of final map for Unit 1 until the Otay Mesa Road/Interim SR-905 Connector intersection is eliminated with completion of SR-905 Phase 1A of the proposed project will also mitigate the direct impacts under existing plus Units 1-3 of the proposed project. (See EIR Impact TI-7.)

Otay Mesa Road (Old Otay Mesa Road)/Sanyo Avenue: The proposed project's mitigation for the direct impacts under existing plus Units 1-2 of the proposed project will mitigate the direct impacts under existing plus Units 1-3 of the proposed project. (See EIR Impact TI-8.)

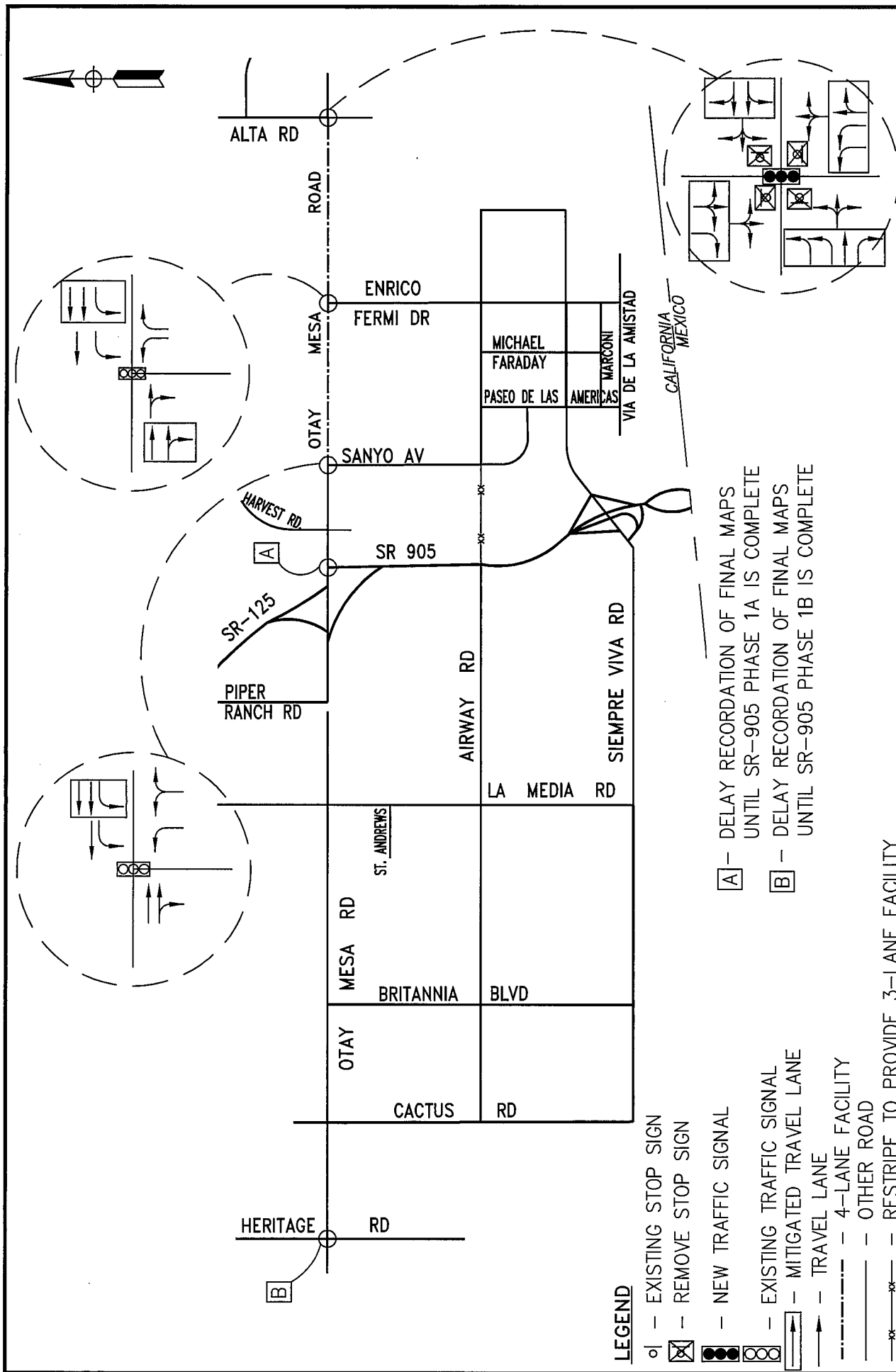


FIGURE 41

RECOMMENDED MITIGATION - EXISTING + UNITS 1-3

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Otay Mesa Road (Old Otay Mesa Road)/Enrico Fermi Drive: The proposed project's mitigation for the direct impacts under existing plus Units 1-2 of the proposed project will mitigate the direct impacts under existing plus Units 1-3 of the proposed project. (See EIR Impact TI-9.)

Otay Mesa Road (Old Otay Mesa Road)/Alta Road: The proposed project's mitigation for the direct impacts under existing plus Units 1-2 of the proposed project will mitigate the direct impacts under existing plus Units 1-3 of the proposed project. (See EIR Impact TI-6.)

See Figure 41 for the recommended mitigation measures of the intersection for the direct impacts associated with Units 1-3 of the proposed project.

Units 1-4 Impacts

Units 1-4 Direct Impacts – Roadway Segments

As shown in Section IV, Units 1-4 of the proposed project exceeds the significance guidelines on the following roadway segments under existing conditions plus Units 1-4 of the proposed project:

- Interim SR-905 (Otay Mesa Road) between Heritage Road and Britannia Boulevard;
- Otay Mesa Road (Old Otay Mesa Road) between Sanyo Avenue and Enrico Fermi Drive;
- Otay Mesa Road (Old Otay Mesa Road) between Enrico Fermi Drive and Alta Road; and
- Airway Road between the SR-905 and Sanyo Avenue.

Units 1-4 Roadway Segments Direct Impacts Recommended Mitigation Measures

Interim SR-905 (Otay Mesa Road) between Heritage Road and Britannia Boulevard: Delay recordation of final map for Unit 4 until SR-905 Phase 1B is completed. (See EIR Impacts TI-4 and TI-5.)

Otay Mesa Road between Sanyo Avenue and Enrico Fermi Drive: The proposed project's mitigation for the direct impacts under existing plus Unit 1 of the proposed project will mitigate the direct impacts under existing plus Units 1-4 of the proposed project. (See EIR Impact TI-1.)

Otay Mesa Road between Enrico Fermi Drive and Alta Road: The proposed project's mitigation for the direct impacts under existing plus Unit 1 of the proposed project will mitigate the direct impacts under existing plus Units 1-4 of the proposed project. (See EIR Impact TI-2.)

Airway Road between the SR-905 and Sanyo Avenue: The proposed project's mitigation for the direct impacts under existing plus Units 1-2 of the proposed project will mitigate the direct impacts under existing plus Units 1-4 of the proposed project. (See EIR Impact TI-3.)

See Figure 42 for the recommended mitigation measures of the roadway segments for the direct impacts associated with Units 1-4 of the proposed project.

Units 1-4 Direct Impacts – Intersections

As shown in Section IV, Units 1-4 of the proposed project is part of a significant impact at the following intersections under existing conditions plus Units 1-4 of the proposed project:

- Interim SR-905 (Otay Mesa Road)/Heritage Road;
- Interim SR-905 (Otay Mesa Road)/Britannia Boulevard;
- Otay Mesa Road/Interim SR-905 Connector;
- Otay Mesa Road (Old Otay Mesa Road)/Sanyo Avenue;
- Otay Mesa Road (Old Otay Mesa Road)/Enrico Fermi Drive; and
- Otay Mesa Road (Old Otay Mesa Road)/Alta Road.

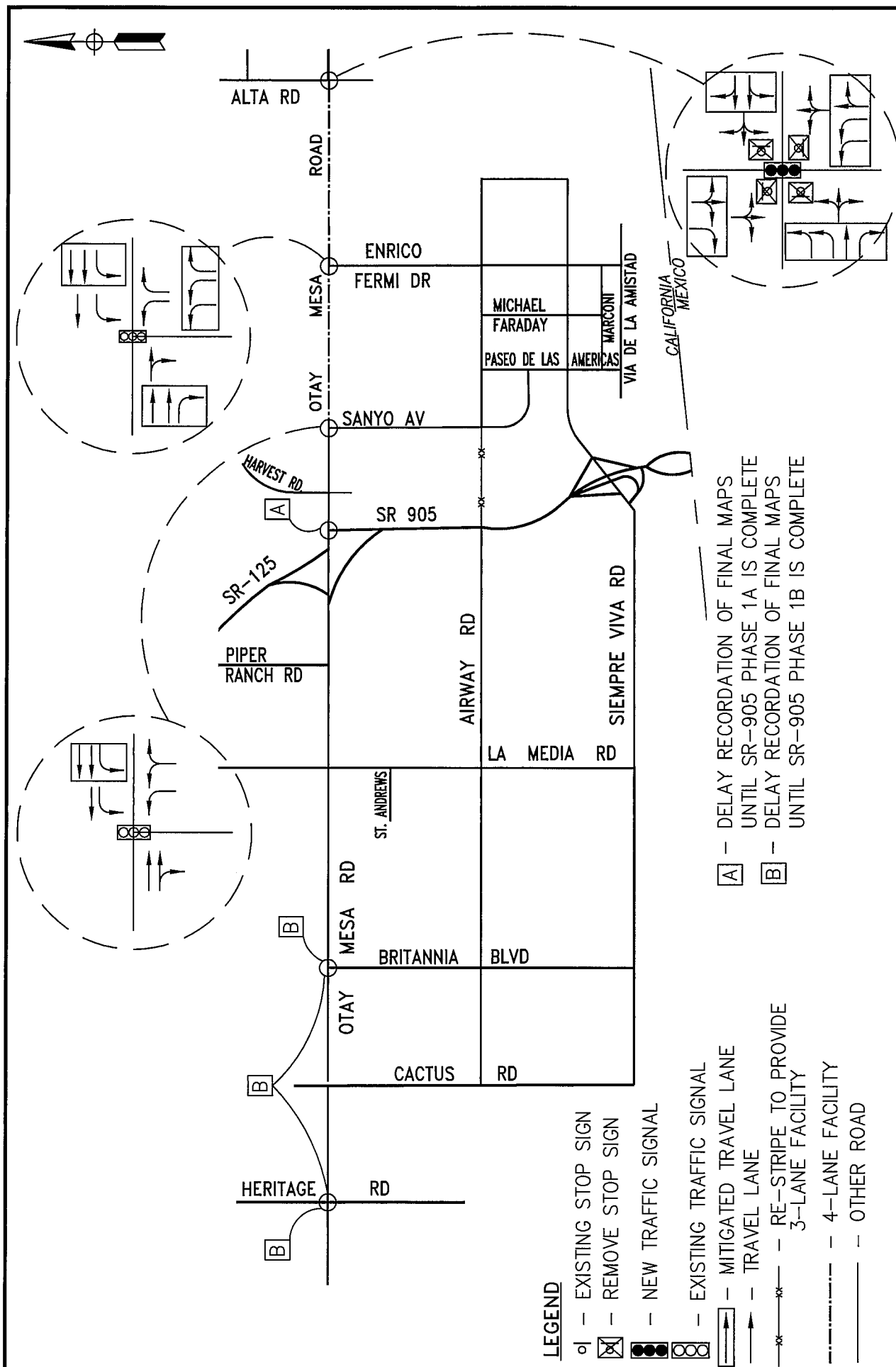


FIGURE 42

RECOMMENDED MITIGATION - EXISTING + UNITS 1-4

Units 1-4 Intersections Direct Impacts Recommended Mitigation Measures

Interim SR-905 (Otay Mesa Road)/Heritage Road: The proposed project's mitigation for the direct impacts under existing plus Units 1-3 to delay recordation of final map for Unit 4 until SR-905 Phase 1B is completed will also mitigate the direct impacts under existing plus Units 1-4 of the proposed project. (See EIR Impact TI-10.)

Interim SR-905 (Otay Mesa Road)/Britannia Boulevard: Delay recordation of final map for Unit 4 until SR-905 Phase 1B is completed. (See EIR Impact TI-11.)

Otay Mesa Road/Interim SR-905 Connector: The proposed project's mitigation for the direct impacts under existing plus Unit 1 to delay recordation of final map for Unit 4 until the Otay Mesa Road/Interim SR-905 Connector intersection is eliminated with completion of SR-905 Phase 1A of the proposed project will also mitigate the direct impacts under existing plus Units 1-4 of the proposed project. (See EIR Impact TI-7.)

Otay Mesa Road (Old Otay Mesa Road)/Sanyo Avenue: The proposed project's mitigation for the direct impacts under existing plus Units 1-2 of the proposed project will mitigate the direct impacts under existing plus Units 1-4 of the proposed project. (See EIR Impact TI-8.)

Otay Mesa Road (Old Otay Mesa Road)/Enrico Fermi Drive: Prior to recordation of final maps for Unit 4, the applicant shall widen the Otay Mesa Road/Enrico Fermi Drive intersection and modify the existing traffic signal to provide the following lane configurations:

- Two (2) eastbound through lanes;
- One (1) eastbound right turn lane;
- One (1) westbound left turn lane;
- Two (2) westbound through lanes;
- Two (2) northbound left turn lanes; and
- One (1) northbound right turn lane. (See EIR Impact TI-9.)

Otay Mesa Road (Old Otay Mesa Road)/Alta Road: The proposed project's mitigation for the direct impacts under existing plus Units 1-2 of the proposed project will mitigate the direct impacts under existing plus Units 1-4 of the proposed project. (See EIR Impact TI-6.)

See Figure 42 for the recommended mitigation measures of the intersection for the direct impacts associated with Units 1-4 of the proposed project.

Units 1-5 Impacts

Units 1-5 Direct Impacts – Roadway Segments

As shown in Section IV, Units 1-5 of the proposed project exceeds the significance guidelines based on daily capacity analysis on the following roadway segments under existing conditions plus Units 1-5 of the proposed project:

- Interim SR-905 (Otay Mesa Road) between Heritage Road and Britannia Boulevard;
- Otay Mesa Road (Old Otay Mesa Road) between Sanyo Avenue and Enrico Fermi Drive;
- Otay Mesa Road (Old Otay Mesa Road) between Enrico Fermi Drive and Alta Road; and
- Airway Road between the SR-905 and Sanyo Avenue.

Units 1-5 Roadway Segments Direct Impacts Recommended Mitigation Measures

Interim SR-905 (Otay Mesa Road) between Heritage Road and Britannia Boulevard: The proposed project's mitigation for the direct impacts under existing plus Units 1-4 to delay recordation of final map for Units 1-4 until SR-905 Phase 1B is completed will also mitigate the direct impacts under existing plus Units 1-5 of the proposed project. (See EIR Impacts TI-4 and TI-5.)

Otay Mesa Road between Sanyo Avenue and Enrico Fermi Drive: The proposed project's mitigation for the direct impacts under existing plus Unit 1 of the proposed project will mitigate the direct impacts under existing plus Units 1-5 of the proposed project. (See EIR Impact TI-1.)

Otay Mesa Road between Enrico Fermi Drive and Alta Road: The proposed project's mitigation for the direct impacts under existing plus Unit 1 of the proposed project will mitigate the direct impacts under existing plus Units 1-5 of the proposed project. (See EIR Impact TI-2.)

Airway Road between the SR-905 and Sanyo Avenue: The proposed project's mitigation for the direct impacts under existing plus Units 1-4 of the proposed project will mitigate the direct impacts under existing plus Units 1-5 of the proposed project. (See EIR Impact TI-3.)

See Figure 43 for the recommended mitigation measures of the roadway segments for the direct impacts associated with Units 1-5 of the proposed project.

Units 1-5 Direct Impacts – Intersections

As shown in Section IV, Units 1-5 of the proposed project is part of a significant impact at the following intersections under existing conditions plus Units 1-5 of the proposed project:

- Interim SR-905 (Otay Mesa Road)/Heritage Road;
- Interim SR-905 (Otay Mesa Road)/Britannia Boulevard;
- Otay Mesa Road/Interim SR-905 Connector;
- Otay Mesa Road (Old Otay Mesa Road)/Sanyo Avenue;
- Otay Mesa Road (Old Otay Mesa Road)/Enrico Fermi Drive; and
- Otay Mesa Road (Old Otay Mesa Road)/Alta Road.

Units 1-5 Intersections Direct Impacts Recommended Mitigation Measures

Interim SR-905 (Otay Mesa Road)/Heritage Road: The proposed project's mitigation for the direct impacts under existing plus Units 1-3 to delay recordation of final map for Units 1-5 until SR-905 Phase 1B is completed will also mitigate the direct impacts under existing plus Units 1-5 of the proposed project. (See EIR Impact TI-10.)

Interim SR-905 (Otay Mesa Road)/Britannia Boulevard: The proposed project's mitigation for the direct impacts under existing plus Units 1-4 to delay recordation of final map for Units 1-5 until SR-905 Phase 1B is completed will also mitigate the direct impacts under existing plus Units 1-5 of the proposed project. (See EIR Impact TI-11.)

Otay Mesa Road/Interim SR-905 Connector: The proposed project's mitigation for the direct impacts under existing plus Unit 1 to delay recordation of final map for Units 1-5 until the Otay Mesa Road/Interim SR-905 Connector intersection is eliminated with completion of SR-905 Phase 1A of the proposed project will also mitigate the direct impacts under existing plus Units 1-5 of the proposed project. (See EIR Impact TI-7.)

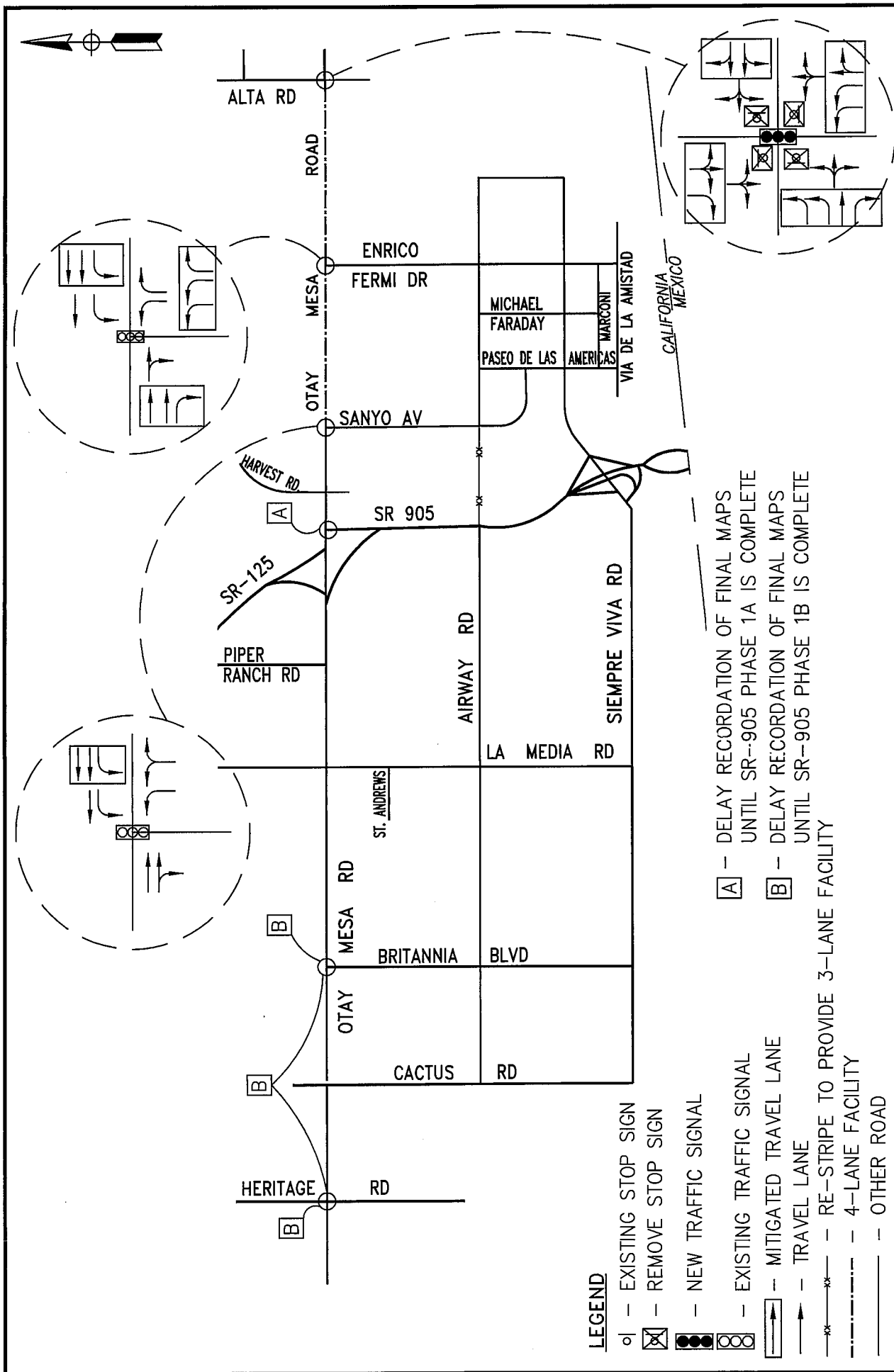


FIGURE 43

RECOMMENDED MITIGATION - EXISTING + UNITS 1-5

Otay Mesa Road (Old Otay Mesa Road)/Sanyo Avenue: The proposed project's mitigation for the direct impacts under existing plus Units 1-2 of the proposed project will mitigate the direct impacts under existing plus Units 1-4 of the proposed project. (See EIR Impact TI-8.)

Otay Mesa Road (Old Otay Mesa Road)/Enrico Fermi Drive: The proposed project's mitigation for the direct impacts under existing plus Units 1-4 of the proposed project will mitigate the direct impacts under existing plus Units 1-5 of the proposed project. (See EIR Impact TI-9.)

Otay Mesa Road (Old Otay Mesa Road)/Alta Road: The proposed project's mitigation for the direct impacts under existing plus Units 1-2 of the proposed project will mitigate the direct impacts under existing plus Units 1-5 of the proposed project. (See EIR Impact TI-6.)

See Figure 43 for the recommended mitigation measures of the intersection for the direct impacts associated with Units 1-5 of the proposed project.

CUMULATIVE IMPACTS

Cumulative Impacts – Roadway Segments

As shown in Section V, the proposed project adds traffic to the following roadway segments that operate at an unacceptable level of service under cumulative (2020) with SR-905 conditions and is therefore considered to be part of a significant cumulative impact:

- Otay Mesa Road (Old Otay Mesa Road) between Enrico Fermi Drive and Alta Road; and
- Enrico Fermi Drive between Otay Mesa Road (Old Otay Mesa Road) and Airway Road.

Roadway Segments Cumulative Impacts Recommended Mitigation Measures

Otay Mesa Road (Old Otay Mesa Road) between Enrico Fermi Drive and Alta Road: The proposed project's mitigation for the direct impacts under existing plus Unit 1 of the proposed project will mitigate the cumulative impacts to Otay Mesa Road (Old Otay Mesa Road) between Enrico Fermi Drive and Alta Road under cumulative (2020) with SR-905 [Phases 1A & 1B]. (See EIR Impact TI-2.)

Enrico Fermi Drive between Otay Mesa Road (Old Otay Mesa Road) and Airway Road: Prior to issuance of building permits for the proposed project, the applicant shall pay the County's TIF towards the improvement of Enrico Fermi Drive between Otay Mesa Road (Old Otay Mesa Road) and Airway Road to a four (4) lane facility with two (2) lanes in each direction. (See EIR Impact TI-12.)

See Figure 44 for the recommended mitigation measures of each roadway segment for cumulative impacts.

Cumulative Impacts – Intersections

As shown in Section V, the proposed project adds traffic to the following intersections that operate at an unacceptable level of service under cumulative (2020) with SR-905 conditions and is therefore considered to be part of a significant cumulative impact:

- Otay Mesa Road (Old Otay Mesa Road)/Vann Centre Boulevard;
- Otay Mesa Road (Old Otay Mesa Road)/Alta Road;
- Airway Road/Sanyo Avenue;
- Airway Road/Paseo De Las Americas; and
- Siempre Viva Road/Michael Faraday Drive.

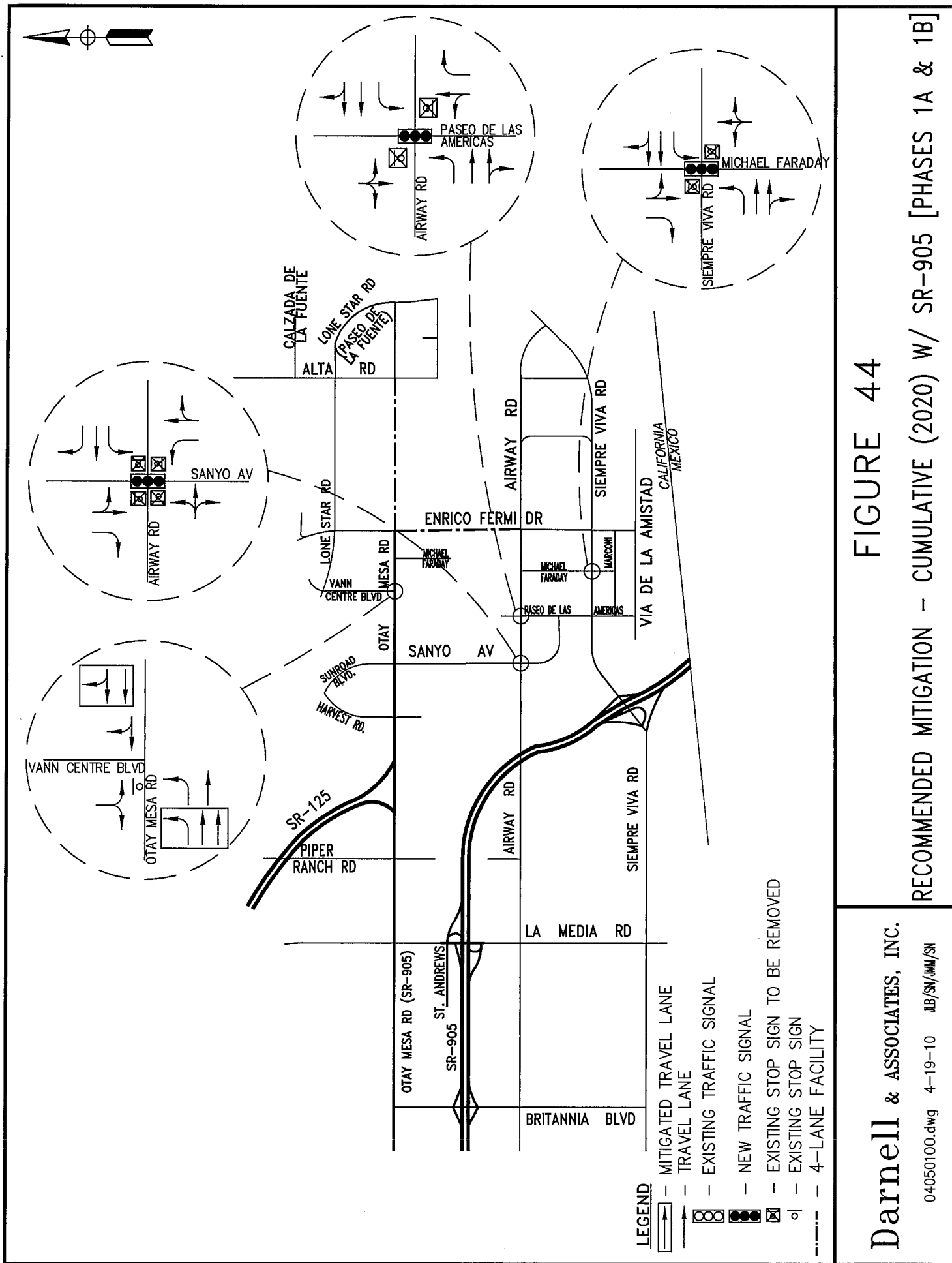


FIGURE 44

RECOMMENDED MITIGATION – CUMULATIVE (2020) W/ SR-905 [PHASES 1A & 1B]

Darnell & ASSOCIATES, INC.

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Intersections Cumulative Impacts Recommended Mitigation Measures

Otay Mesa Road (Old Otay Mesa Road)/Vann Centre Boulevard: Prior to issuance of building permits for the proposed project, the applicant shall pay the County's TIF towards the improvement of Otay Mesa Road (Old Otay Mesa Road)/Vann Centre Boulevard intersection and modifications to provide the following lane configurations:

- One (1) eastbound left turn lane;
- Two (2) eastbound through lanes;
- One (1) westbound through lane;
- One (1) westbound shared through-right lane; and
- One (1) southbound shared left-right lane. (See EIR impact TI-13.)

Otay Mesa Road (Old Otay Mesa Road)/Alta Road: It should be noted that the cumulative analysis of this intersection includes 13% for the Otay Crossings proposed project; therefore, the proposed project's mitigation for direct impacts under existing plus Units 1-5 of the proposed project will mitigate the cumulative impacts under cumulative (2020) with SR-905 [Phases 1A & 1B]. (See EIR Impact TI-6.)

Airway Road/Sanyo Avenue: Prior to recordation of the final map for Unit 1 of the proposed project, the applicant shall coordinate with the City of San Diego to improve or agree to improve and provide security, or identify and provide the appropriate fair-share contribution with a verified implementation schedule to construct a traffic signal at the Airway Road/Sanyo Avenue intersection to provide the following lane configurations:

- One (1) eastbound shared left-through-right lane;
- One (1) westbound left turn lane;
- One (1) westbound through lane;
- One (1) westbound right turn lane;
- One (1) northbound left turn lane;
- One (1) northbound shared through-right lane;
- One (1) southbound shared left through lane; and
- One (1) southbound right turn lane (See EIR Impact TI-14.)

Airway Road/Paseo De Las Americas: Prior to issuance of building permits, the applicant shall pay the County's TIF towards the signalization of the Airway Road/Paseo De Las Americas intersection to provide the following lane configurations:

- One (1) eastbound left turn lane;
- One (1) eastbound through lane;
- One (1) eastbound shared through-right lane;
- One (1) westbound left turn lane;
- One (1) westbound through lane;
- One (1) westbound shared through-right lane;
- One (1) northbound shared left-through lane;
- One (1) northbound right turn lane; and
- One (1) southbound left-through-right turn lane (See EIR Impact TI-15.)

Siempre Viva Road/Michael Faraday Drive: Prior to recordation of the final map for Unit 1 of the proposed project, the applicant shall coordinate with the City of San Diego to improve or agree to improve and provide security, or identify and provide the appropriate fair-share contribution with a verified implementation schedule to construct a traffic signal at the Siempre Viva Road/Michael Faraday Drive intersection to provide the following lane configurations:

- One (1) eastbound left turn lane;
- One (1) eastbound through lane;
- One (1) eastbound shared through right lane;
- One (1) westbound left turn lane;
- One (1) westbound through lane;
- One (1) westbound shared through-right lane;
- One (1) northbound shared left-through-right lane;
- One (1) southbound shared left-through lane; and
- One (1) southbound right turn lane (See EIR Impact TI-16.)

See Figure 44 for the recommended mitigation measures of each intersection for cumulative impacts.

FUTURE IMPACTS

The project is consistent with the County's East Otay Mesa Specific Plan Amendment 2007. As shown in Section VII, the project does not have an impact under 2030 conditions in the County or City of San Diego.

PROJECT ACCESS IMPROVEMENTS

If not previously constructed by the Otay Business Park Development (TM 5505), the project applicant for Otay Crossings Commerce Park (TM 5405) will be responsible for constructing the off-site segments of Airway Road between Airway Place and Alta Road, Airway Road between Alta Road and Siempre Viva Road and the segment of Siempre Viva Road between Airway Road and Lone Star Road with the development of Unit 4 and Unit 5 of the proposed project in order to provide access to the project site.

In addition, the project applicant will be responsible for constructing the on-site circulation element roads of Otay Mesa Road, Siempre Viva Road, Alta Road, and Lone Star Road along their project's frontage and the non-circulation element roads within the project site in order to facilitate access within the project site. As shown in Tables 40 and 41, a summary of the required improvements for the project access and on-site roadway segments and a summary of the required improvements for the required improvements for the internal intersections.

MITIGATION SUMMARY LEVEL OF SERVICE

For convenience of the reader Tables 42, 43, 44 and 45 have been created to summarize the level of service for roadway segments and intersections before and after the recommended mitigation measures.

Table 40 – Summary of Project Access Roadway Segment Improvement Requirements		
Roadway Segment	Scenario	Required Improvement
Otay Mesa Road		
Alta Rd to Lone Star Rd (Paseo De La Fuente)	E+1	Not Applicable
	E+2	Prior to recordation of final maps for Unit 2, the applicant will construct roadway segment to provide 2 travel lanes with 1 lane in each direction.
	E+3	Prior to recordation of final maps for Unit 3, the applicant will widen roadway segment to provide 2 travel lanes with 1 lane in each direction and a TWLTL.
	E+4	Prior to recordation of final maps for Unit 4, complete the improvements identified under E+3.
	E+5	Prior to recordation of final maps for Unit 5, complete the improvements identified under E+3.
	C/L Ordinance	Prior to recordation of final maps for Unit 2, the applicant will be required to construct the roadway segment to the ½ Width of a Major Road.
Alta Road		
Otay Mesa Rd to Calle Ventner	E+1	Prior to recordation of final maps for Unit 1, the applicant will construct the roadway segment to provide 2 travel lanes with 1 lane in each direction.
	E+2	Complete the project improvements identified under E+1.
	E+3	Prior to recordation of final maps for Unit 3, the applicant will widen the roadway segment to provide 2 travel lanes, with 1 lane in each direction and a TWLTL.
	E+4	Prior to recordation of final maps for Unit 4, complete the improvements identified under E+3.
	E+5	Prior to recordation of final maps for Unit 5, complete the improvements identified under E+3.
	C/L Ordinance	Prior to recordation of final maps for Unit 1, the applicant will be required to construct the roadway segment to the ½ Width of a Major Road.
Calle Ventner to Street 'B'	E+1	Not Applicable
	E+2	Not Applicable
	E+3	Prior to recordation of final maps the applicant will construct the roadway segment to provide 2 travels lanes with 1 lane in each direction.
	E+4	Prior to recordation of final maps for Unit 4, complete the improvements identified under E+3.
	E+5	Prior to recordation of final maps for Unit 5, complete the improvements identified under E+3.
	C/L Ordinance	Prior to recordation of final maps for Unit 3, the applicant will be required to construct the roadway segment to the ½ Width of a Major Road.
Street 'B' to Airway Rd	E+1	Not Applicable
	E+2	Not Applicable
	E+3	Not Applicable
	E+4	Prior to recordation of final maps the applicant will construct the roadway segment to provide 2 travels lanes with 1 lane in each direction.
	E+5	Prior to recordation of final maps for Unit 5, complete the improvements identified under E+4.
	C/L Ordinance	Prior to recordation of final maps for Unit 4, the applicant will be required to construct the roadway segment to the ½ Width of a Major Road.
Airway Rd to Siempre Viva Rd ^(a)	E+1	Not Applicable
	E+2	Not Applicable
	E+3	Not Applicable
	E+4	Not Applicable
	E+5	Not Applicable
	C/L Ordinance	Not Applicable
Airway Road		
Airway Pl to Alta Rd ^(a)	E+1	Not Applicable
	E+2	Not Applicable
	E+3	Not Applicable
	E+4	Prior to recordation of final maps for Unit 4, the applicant will construct the roadway segment to provide 2 travel lanes with 1 lane in each direction.
	E+5	Prior to recordation of final maps for Unit 5, complete the improvements identified under E+4.
	C/L Ordinance	Not Applicable
Alta Rd to Siempre Viva Rd ^(a)	E+1	Not Applicable
	E+2	Not Applicable
	E+3	Not Applicable
	E+4	Prior to recordation of final maps for Unit 4, the applicant will construct the roadway segment to provide 2 travel lanes with 1 lane in each direction.
	E+5	Prior to recordation of final maps for Unit 5, complete the improvements identified under E+4.
	C/L Ordinance	Not Applicable
Siempre Viva Road		
Alta Rd to Airway Rd ^(a)	E+1	Not Applicable
	E+2	Not Applicable
	E+3	Not Applicable
	E+4	Not Applicable
	E+5	Not Applicable
	C/L Ordinance	Not Applicable

E+1 = Existing + Project Unit 1; E+ 2 = Existing + Project Units 1-2; E+ 3 = Existing + Project Units 1-3; E+ 4 = Existing + Project Units 1-4; E+5 = Existing + Project Units 1-5; C w/o 905 = Cumulative w/o SR-905 + Project; C w/905 = Cumulative w/SR-905 1A & 1B + Project; N/A=Not Applicable; C/L Ordinance = Center-Line Ordinance Requirement; TWLTL = Center Two-Way-Left-Turn Lane; Imp = Improvement; (a) Roadway is located off-site

Table 40 (Continued) – Summary of Project Access Roadway Segment Improvement Requirements

Roadway Segment	Scenario	Required Improvement
Siempre Viva Road		
Airway Rd to Lone Star Rd	E+1	Not Applicable
	E+2	Not Applicable
	E+3	Prior to recordation of final maps for Unit 3, the applicant will construct the roadway segment to provide 2 travel lanes with 1 lane in each direction.
	E+4	Prior to recordation of final maps for Unit 4, complete the improvements identified under E+3.
	E+5	Prior to recordation of final maps for Unit 5, complete the improvements identified under E+3.
	C/L Ordinance	Prior to recordation of final maps for Unit 3, the applicant will be required to construct the roadway segment to a Major Road.
East of Lone Star Rd	E+1	Not Applicable
	E+2	Prior to recordation of final maps the applicant will construct the roadway segment to the standards of 2-Lane Industrial/Commercial Collector.
	E+3	Prior to recordation of final maps for Unit 3, complete the improvements identified under E+2.
	E+4	Prior to recordation of final maps for Unit 4, complete the improvements identified under E+2.
	E+5	Prior to recordation of final maps for Unit 5, complete the improvements identified under E+2.
	C/L Ordinance	Prior to recordation of final maps for Unit 2, the applicant will be required to construct the roadway segment to the ½ Width of a 4-Lane Industrial/Commercial Collector.
Calle Ventner		
Alta Rd to Street 'A'	E+1	Prior to recordation of final maps for Unit 1, the applicant will construct the roadway segment to the standards of a 2-Lane Industrial/Commercial Collector.
	E+2	Prior to recordation of final maps for Unit 2, complete the improvements identified under E+1.
	E+3	Prior to recordation of final maps for Unit 3, complete the improvements identified under E+1.
	E+4	Prior to recordation of final maps for Unit 4, complete the improvements identified under E+1.
	E+5	Prior to recordation of final maps for Unit 5, complete the improvements identified under E+1.
Street 'A' to Lone Star Rd	E+1	Prior to recordation of final maps for Unit 1, the applicant will construct the roadway segment to the standards of a 2-Lane Industrial/Commercial Collector.
	E+2	Prior to recordation of final maps for Unit 2, complete the improvements identified under E+1.
	E+3	Prior to recordation of final maps for Unit 3, complete the improvements identified under E+1.
	E+4	Prior to recordation of final maps for Unit 4, complete the improvements identified under E+1.
	E+5	Prior to recordation of final maps for Unit 5, complete the improvements identified under E+1.
Lone Star Road		
Otay Mesa Rd to Calle Ventner	E+1	Not Applicable
	E+2	Prior to recordation of final maps for Unit 1 the applicant will construct the roadway segment to provide 2 travels lanes with 1 lane in each direction.
	E+3	Prior to recordation of final maps for Unit 2, the applicant will widen the roadway segment to provide 2 travels lanes with 1 lane in each direction and a TWLT.
	E+4	Prior to recordation of final maps for Unit 4, complete the improvements identified under E+3.
	E+5	Prior to recordation of final maps for Unit 5, complete the improvements identified under E+3.
	C/L Ordinance	Prior to recordation of final maps for Unit 2, the applicant will be required to construct the roadway segment to a Major Road.
Calle Ventner to Siempre Viva Rd	E+1	Not Applicable
	E+2	Prior to recordation of final maps for Unit 2, the applicant will construct the roadway segment to provide 2 travels lanes with 1 lane in each direction.
	E+3	Prior to recordation of final maps for Unit 3, complete the improvements identified under E+2.
	E+4	Prior to recordation of final maps for Unit 4, complete the improvements identified under E+2.
	E+5	Prior to recordation of final maps for Unit 5, complete the improvements identified under E+2.
	C/L Ordinance	Prior to recordation of final maps for Unit 2, the applicant will be required to construct the roadway segment to a Major Road.
Siempre Viva Rd to Street 'C'	E+1	Not Applicable
	E+2	Not Applicable
	E+3	Not Applicable
	E+4	Prior to recordation of final maps for Unit 4, the applicant will construct the roadway segment to the standards of 2-Lane Industrial/Commercial Collector.
	E+5	Prior to recordation of final maps for Unit 5, the applicant will widen the roadway segment to the standards of a 4-Lane Industrial/Commercial Collector.
	C/L Ordinance	Prior to recordation of final maps for Unit 4, the applicant will be required to construct the roadway segment to the standards of a 4-Lane Industrial/Commercial Collector.
South of Street 'C'	E+1	Not Applicable
	E+2	Not Applicable
	E+3	Not Applicable
	E+4	Prior to recordation of final maps for Unit 4, the applicant will construct the roadway segment to the standards of a 2-Lane Industrial/Commercial Collector.
	E+5	Prior to recordation of final maps for Unit 5, complete the improvements identified under E+4.
	C/L Ordinance	Prior to recordation of final maps for Unit 4, the applicant will be required to construct the roadway segment to the standards of a 4-Lane Industrial/Commercial Collector.

E+1 = Existing + Project Unit 1; E+ 2 = Existing + Project Units 1-2; E+ 3 = Existing + Project Units 1-3; E+ 4 = Existing + Project Units 1-4; E+5 = Existing + Project Units 1-5; C w/o 905 = Cumulative w/o SR-905 + Project; C w/905 = Cumulative w/SR-905 1A & 1B + Project ; N/A=Not Applicable; C/L Ordinance = Center-Line Ordinance Requirement; TWLTL = Center Two-Way-Left-Turn Lane; Imp = Improvement; (a) Roadway is located off-site

Table 40 (Continued) – Summary of Project Access Roadway Segment Improvement Requirements		
Roadway Segment	Scenario	Required Improvement
Street 'A'		
North of Calle Ventner	E+1	Prior to recordation of final maps for Unit 1, the applicant will construct the roadway segment to the standards of 2-Lane Industrial/Commercial Collector.
	E+2	Prior to recordation of final maps for Unit 2, complete the improvements identified under E+1.
	E+3	Prior to recordation of final maps for Unit 3, complete the improvements identified under E+1.
	E+4	Prior to recordation of final maps for Unit 4, complete the improvements identified under E+1.
	E+5	Prior to recordation of final maps for Unit 5, complete the improvements identified under E+1.
Street 'B'		
East of Alta Rd	E+1	Not Applicable
	E+2	Not Applicable
	E+3	Prior to recordation of final maps for Unit 3, the applicant will construct the roadway segment to the standards of 2-Lane Industrial/Commercial Collector.
	E+4	Prior to recordation of final maps for Unit 4, complete the improvements identified under E+3.
	E+5	Prior to recordation of final maps for Unit 5, complete the improvements identified under E+3.
Street 'C'		
East of Lone Star Rd	E+1	Not Applicable
	E+2	Not Applicable
	E+3	Not Applicable
	E+4	Prior to recordation of final maps for Unit 4, the applicant will construct the roadway segment to the standards of 2-Lane Industrial/Commercial Collector.
	E+5	Prior to recordation of final maps for Unit 5, complete the improvements identified under E+4.
	2030	Prior to recordation of final maps for Unit 4, complete the improvements identified under E+4; however, maintain the right-of-way for a Light Collector Roadway to allow for future improvements at a later date.
E+1 = Existing + Project Unit 1; E+ 2 = Existing + Project Units 1-2; E+ 3 = Existing + Project Units 1-3; E+ 4 = Existing + Project Units 1-4; E+5 = Existing + Project Units 1-5; C w/o 905 = Cumulative w/o SR-905 + Project; C w/905 = Cumulative w/SR-905 1A & 1B + Project ; N/A=Not Applicable; C/L Ordinance = Center-Line Ordinance Requirement; TWLTL = Center Two-Way-Left-Turn Lane; Imp = Improvement; (a) Roadway is located off-site		

Table 41 – Summary of Internal Intersection Improvement Requirements

Intersection	Scenario	Required Improvement
Otay Mesa Rd [E-W]@ Lone Star Rd (Paseo De La Fuente) [N-S]	E+1	Not Applicable
	E+2	Prior to recordation of final maps for Unit 2, the applicant will install a stop sign on the eastbound approach (west leg) of the intersection to provide OWSC and construct the following lane configurations: 1-EBL-R; 1-NBT-L & 1-SBT-R.
	E+3	Prior to recordation of final maps for Unit 3, complete the improvements identified under E+2.
	E+4	Prior to recordation of final maps for Unit 4, complete the improvements identified under E+2.
	E+5	Prior to recordation of final maps for Unit 4, complete the improvements identified under E+2.
Alta Rd [N-S] @ Calle Ventner [E-W]	E+1	Not Applicable (There is no conflicting movements since it is a curve.)
	E+2	Not Applicable (There is no conflicting movements since it is a curve.)
	E+3	Prior to recordation of final maps for Unit 3, the applicant will install a stop sign on the westbound approach (east leg) of the intersection to provide OWSC and construct the following lane configurations: 1-WBL-R; 1-NBT-R; 1-SBL-U; 1-SBL; & 1-SBT.
	E+4	Prior to recordation of final maps for Unit 4, the applicant shall signalize and widen the intersection to provide the following lane configurations: 1-WBL-R; 1-NBT-R; 1-SBL-U; 1-SBL; & 1-SBT.
	E+5	Prior to recordation of final maps for Unit 5, complete the improvements identified under E+4.
Alta Rd [N-S]@ Street 'B' [E-W]	E+1	Not Applicable
	E+2	Not Applicable
	E+3	Not Applicable (There is no conflicting movements since it is a curve.)
	E+4	Prior to recordation of final maps for Unit 4, the applicant will install a stop sign on the westbound approach (east leg) of the intersection to provide OWSC and construct the following lane configurations: 1-WBL-R; 1-NBT-R & 1-SBT-L.
	E+5	Prior to recordation of final maps for Unit 5, complete the improvements identified under E+4.
Alta Rd [N-S] @ Airway Rd [E-W]	E+1	Not Applicable
	E+2	Not Applicable
	E+3	Not Applicable
	E+4	Prior to recordation of final maps for Unit 4, the applicant will install a stop sign on the southbound approach (north leg) of the intersection to provide OWSC and construct the following lane configurations: 1-EBL; 1-EBT; 1-EBT-R; 1-SBL-R & 1-SBR.
	E+5	Prior to recordation of final maps for Unit 5, complete the improvements identified under E+4.
Alta Rd [N-S] @ Siempre Viva Rd [E-W]	E+1	Not Applicable
	E+2	Not Applicable
	E+3	Not Applicable
	E+4	Not Applicable
	E+5	Not Applicable
Siempre Viva Rd [E-W] @ Airway Road [N-S]	E+1	Not Applicable
	E+2	Not Applicable
	E+3	Not Applicable
	E+4	Not Applicable
	E+5	Not Applicable
Lone Star Rd [N-S]@ Calle Ventner [E-W]	E+1	Not Applicable
	E+2	Prior to recordation of final maps for Unit 2, the applicant will install a stop sign on the eastbound approach (west leg) of the intersection to provide OWSC and construct the following lane configurations: 1-EBL-R; 1-NBL; 1-NBT; 1-SBU & 1-SBT-R.
	E+3	Prior to recordation of final maps for Unit 3, complete the improvements identified under E+2.
	E+4	Prior to recordation of final maps for Unit 4, complete the improvements identified under E+2.
	E+5	Prior to recordation of final maps for Unit 5, complete the improvements identified under E+2.
Lone Star Rd [N-W]@ Siempre Viva Rd [E-W]	E+1	Not Applicable
	E+2	Not Applicable
	E+3	Prior to recordation of final maps for Unit 3, the applicant will install a stop sign on the southbound approach (north leg) of the intersection to provide OWSC and construct the following lane configurations: 1-EBT-L; 1-WBT-R; 1-SBL-U & 1-SBL-R.
	E+4	Prior to recordation of final maps for Unit 4 install stop signs on all approaches to the intersection to provide AWSC and construct the following lane configurations: 1-EBL; 1-EBT-R; 1-WBT-LR; 1-NBT-LR; 1-SBT-L & 1-SBR.
	E+5	Prior to recordation of final maps for Unit 5 install stop signs on all approaches to the intersection to provide AWSC and construct the following lane configurations: 1-EBL; 1-EBT; 1-EBR; 1-WBT-LR; 1-NBL; 1-NBT-R; 1-SBT-L & 1-SBR.

E+1 = Existing + Project Unit 1; E+ 2 = Existing + Project Units 1-2; E+ 3 = Existing + Project Units 1-3; E+ 4 = Existing + Project Units 1-4; E+ 5 = Existing + Project Units 1-5; OWSC = One-Way Stop-Controlled; AWSC = All-Way Stop-Controlled;
 EBL = Eastbound Left; EBT-L = Eastbound Shared Through-Left; EBT-LR = Eastbound Shared Through Left-Right; EBT = Eastbound Through;
 EBT-R = Eastbound Shared Through Right; EBR = Eastbound Right; EBL-R = Eastbound Shared Left-Right; WBL = Westbound Left;
 WBT-L = Westbound Shared Through-Left; WBT-LR = Westbound Shared Through Left-Right; WBT = Westbound Through;
 WBT-R = Westbound Shared Through Right; WBR = Westbound Right; WBL-R = Westbound Shared Left-Right; NBL = Northbound Left;
 NBT-L = Northbound Shared Through-Left; NBT-LR = Northbound Shared Through Left-Right; NBT = Northbound Through;
 NBT-R = Northbound Shared Through-Right; NBR = Northbound Right; NBL-R = Northbound Shared Left-Right;
 SBL-U = Southbound Shared Left-U Turn; SBL = Southbound Left; SBT-L = Southbound Shared Through-Left;
 SBT-LR = Southbound Shared Through Left-Right; SBT = Southbound Through; SBT-R = Southbound Shared Through-Right; SBR = Southbound Right;
 SBL-R = Southbound Shared Left-Right; N-S = North-South Roadway; E-W = East-West Roadway;

Table 41 (Continued) – Summary of Internal Intersection Improvement Requirements		
Intersection	Scenario	Required Improvement
Lone Star Rd [N-S] @ Street 'C' [E-W]	E+1	Not Applicable
	E+2	Not Applicable
	E+3	Not Applicable
	E+4	Prior to recordation of final maps for Unit 4, the applicant will install a stop sign on the westbound approach (east leg) of the intersection to provide OWSC and construct the following lane configurations: 1-WBL-R; 1-NBT-R; 1-SBL & 1-SBT.
	E+5	Prior to recordation of final maps for Unit 5, complete the improvements identified under E+4.
Calle Ventner [E-W] @ Street 'A' [N-S]	E+1	Prior to recordation of final maps for Unit 1, the applicant will install a stop sign on the southbound approach (north leg) of the intersection to provide OWSC and construct the following lane configurations: 1-EBT-L; 1-WBT-R & 1-SBL-R
	E+2	Prior to recordation of final maps for Unit 2, complete the improvements identified under E+1.
	E+3	Prior to recordation of final maps for Unit 3, complete the improvements identified under E+1.
	E+4	Prior to recordation of final maps for Unit 4, complete the improvements identified under E+1.
	E+5	Prior to recordation of final maps for Unit 5, complete the improvements identified under E+1.
E+1 = Existing + Project Unit 1; E+ 2 = Existing + Project Units 1-2; E+ 3 = Existing + Project Units 1-3; E+ 4 = Existing + Project Units 1-4; E+ 5 = Existing + Project Units 1-5; OWSC = One-Way Stop-Controlled; AWSC = All-Way Stop-Controlled; EBL = Eastbound Left; EBT-L = Eastbound Shared Through-Left; EBT-LR = Eastbound Shared Through Left-Right; EBT = Eastbound Through; EBT-R = Eastbound Shared Through Right; EBR = Eastbound Right; EBL-R = Eastbound Shared Left-Right; WBL = Westbound Left; WBT-L = Westbound Shared Through-Left; WBT-LR = Westbound Shared Through Left-Right; WBT = Westbound Through; WBT-R = Westbound Shared Through Right; WBR = Westbound Right; WBL-R = Westbound Shared Left-Right; NBL = Northbound Left; NBT-L = Northbound Shared Through-Left; NBT-LR = Northbound Shared Through Left-Right; NBT = Northbound Through; NBT-R = Northbound Shared Through-Right; NBR = Northbound Right; NBL-R = Northbound Shared Left-Right; SBL-U = Southbound Shared Left-U Turn; SBL = Southbound Left; SBT-L = Southbound Shared Through-Left; SBT-LR = Southbound Shared Through Left-Right; SBT = Southbound Through; SBT-R = Southbound Shared Through-Right; SBR = Southbound Right; SBL-R = Southbound Shared Left-Right; N-S = North-South Roadway; E-W = East-West Roadway;		

Table 42 – Summary of Direct Mitigation Roadway Segment Level of Service												
Roadway Segments	Jurisdiction	Existing + Unit 1		Existing + Units 1-2		Existing + Units 1-3		Existing + Units 1-4		Existing + Units 1-5		
		Before Mit.	After Mit.	Before Mit.	After Mit.	Before Mit.	After Mit.	Before Mit.	After Mit.	Before Mit.	After Mit.	
Interim SR-905 (Otay Mesa Rd)												
Heritage Rd to Cactus Rd	City/Caltrans	F	(a)	F	(a)	F	(a)	F	C	F	C	C
Cactus Rd to Britannia Blvd	City/Caltrans	F	(a)	F	(a)	F	(a)	F	C	F	C	C
Britannia Blvd to La Media Rd	City/Caltrans	F	(a)	F	(a)	F	(a)	F	(a)	F	(a)	(a)
La Media Rd to Piper Ranch Rd	City/Caltrans	F	(a)	F	(a)	F	(a)	F	(a)	F	(a)	(a)
Piper Ranch Rd to SR-125	County/City/Caltrans	D	N/A	D	N/A	E	(a)	E	(a)	E	(a)	(a)
Otay Mesa Rd (Old Otay Mesa Rd)												
SR-125 to Interim SR-905 Connector	County/City/Caltrans	B	N/A	B	N/A	C	N/A	C	N/A	C	N/A	N/A
Interim SR-905 Connector to Harvest Rd	County/City/Caltrans	A	N/A	B	N/A	B	N/A	B	N/A	B	N/A	N/A
Harvest Rd to Sanyo Av	County/City/Caltrans	A	N/A	B	N/A	B	N/A	C	N/A	C	N/A	N/A
Sanyo Av to Enrico Fermi Dr	County/City	E	B	F	B	F	B	F	C	F	D	D
Enrico Fermi Dr to Alta Rd	County	E	A	F	B	F	B	F	B	F	B	B
Airway Road												
La Media Rd to SR-905	City	C	N/A	C	N/A	C	N/A	C	N/A	C	N/A	N/A
SR-905 to Sanyo Av (c)	City	E	(c)	E	C	F	D	F	D	F	B	B
Sanyo Av to Paseo de las Americas	County	C	N/A	C	N/A	C	N/A	C	N/A	C	N/A	N/A
Paseo de las Americas to Michael Faraday	County/City	C	N/A	C	N/A	C	N/A	C	N/A	C	N/A	N/A
Michael Faraday Dr to Enrico Fermi Dr	County/City	B	N/A	B	N/A	B	N/A	C	N/A	C	N/A	N/A
Enrico Fermi Dr to Airway Pl	County	A	N/A	A	N/A	A	N/A	A	N/A	A	N/A	N/A
Airway Pl to Alta Rd	County	Does Not Exist	Does Not Exist	Does Not Exist	Does Not Exist	Does Not Exist	Does Not Exist	D	(d)	D	(d)	(d)
Siempre Viva Road												
SR-905 NB to Paseo de las Americas	City	B	N/A	B	N/A	B	N/A	B	N/A	B	N/A	N/A
Paseo de las Americas to Michael Faraday	City	B	N/A	A	N/A	B	N/A	B	N/A	B	N/A	N/A
Michael Faraday to Enrico Fermi Dr	City	A	N/A	A	N/A	A	N/A	A	N/A	A	N/A	N/A
East of Enrico Fermi Dr	County	A	N/A	A	N/A	A	N/A	A	N/A	A	N/A	N/A
La Media Road												
Otay Mesa Rd to St. Andrews	City	C	N/A	C	N/A	C	N/A	C	N/A	C	N/A	N/A
SR-125												
North of Otay Mesa Rd	SBX	A	N/A	A	N/A	A	N/A	A	N/A	A	N/A	N/A
Existing SR-905												
Otay Mesa Rd to Siempre Viva Rd	City/Caltrans	E	(b)	E	(b)	E	(b)	E	(b)	E	(b)	(b)
South of Siempre Viva Rd	City/Caltrans	A	N/A	A	N/A	A	N/A	A	N/A	A	N/A	N/A
Sanyo Avenue												
Otay Mesa Rd to Airway Rd	City	A	N/A	A	N/A	A	N/A	A	N/A	A	N/A	N/A
Enrico Fermi Drive												
Otay Mesa Rd to Airway Rd	County	A	N/A	A	N/A	A	N/A	A	N/A	A	N/A	N/A
Airway Rd to Siempre Viva Rd	City	A	N/A	A	N/A	A	N/A	A	N/A	A	N/A	N/A

(a) Arterial Roadway Segment analysis shows that the roadway segment does not have a significant impact.

(b) The project does not add traffic to this segment; thus, there is no significant impact.

(c) The Δv/c does not exceed 0.02 per the City of San Diego's thresholds.

(d) The applicant is responsible for constructing a two (2) lane roadway one (1) in each direction.

Bold = Jurisdiction which capacity is based on; Mit. = Mitigation; N/A = Not Applicable

Table 43 – Summary of Roadway Segments Mitigated Level of Service

Roadway Segment	Jurisdiction	Cumulative (2020) w/SR-905	
		LOS Before Mitigation	LOS After Mitigation
Interim SR-905 (Otay Mesa Rd) Heritage Rd to Cactus Rd Cactus Rd to Britannia Blvd Britannia Blvd to La Media Rd La Media Rd to Piper Ranch Rd Piper Ranch Rd to SR-125	City/Caltrans City/Caltrans City/Caltrans City/Caltrans County/City/Caltrans	B B A C B	N/A N/A N/A N/A N/A
Otay Mesa Rd (Old Otay Mesa Rd) SR-125 to Harvest Rd Harvest Rd to Sanyo Av Sanyo Av to Vann Centre Blvd Vann Centre Blvd to Enrico Fermi Dr Enrico Fermi Dr to Alta Rd	County/City/Caltrans County/City/Caltrans County/City County County	C A C C E	N/A N/A N/A N/A B
Airway Road La Media Rd to SR-905 SR-905 to Sanyo Av Sanyo Av to Paseo De Las Americas Paseo De Las Americas to Michael Faraday Dr Michael Faraday Dr to Enrico Fermi Dr Enrico Fermi Dr to Airway Pl Airway Pl to Alta Rd	City City City County/City County/City County County	C C B A C A A	N/A N/A N/A N/A N/A N/A N/A
Siempre Viva Road Drucker Ln to SR-905 SR-905 NB to Paseo De Las Americas Paseo De Las Americas to Michael Faraday Dr Michael Faraday Dr to Enrico Fermi Dr	City City City City	A D D C	N/A N/A N/A N/A
La Media Road Otay Mesa Rd to St. Andrews	City	D	N/A
SR-125 North of Otay Mesa Rd	SBX	A	N/A
State Route 905 Otay Mesa Rd to Siempre Viva Rd South of Siempre Viva Rd	City/Caltrans City/Caltrans	D	Does Not Exist N/A
New State Route 905 Britannia to La Media La Media to Siempre Viva Rd	Caltrans Caltrans	C C	N/A N/A
Sanyo Avenue Otay Mesa Rd to Airway Rd	City	C	N/A
Enrico Fermi Drive Otay Mesa Rd to Airway Rd Airway Rd to Siempre Viva Rd	County City	E A	B N/A
Alta Road Calzada De La Fuente to Lone Star Rd (Paseo DeLa Fuente) Lone Star Rd (Paseo De La Fuente) to Otay Mesa Rd	County County	D D	N/A N/A
N/A = Not Applicable			

Table 44 – Summary of Direct Mitigation Intersection Level of Service												
Intersection	Jurisdiction	Existing + Unit 1		Existing + Units 1-2		Existing + Units 1-3		Existing + Units 1-4		Existing + Units 1-5		
		Before Mit. (AM/PM)	After Mit. (AM/PM)	Before Mit. (AM/PM)	After Mit. (AM/PM)	Before Mit. (AM/PM)	After Mit. (AM/PM)	Before Mit. (AM/PM)	After Mit. (AM/PM)	Before Mit. (AM/PM)	After Mit. (AM/PM)	
Otay Mesa (E-W) @ Heritage (N-S)	City/Caltrans	C/C	N/A	D/D	N/A	E/D	(a)	F/D	(a)	F/D	(a)	
Otay Mesa (E-W) @ Cactus (N-S)	City/Caltrans	A/B	N/A	B/B	N/A	C/B	N/A	D/B	N/A	D/B	N/A	
Otay Mesa (E-W) @ Britannia (N-S)	City/Caltrans	B/B	N/A	C/C	N/A	D/C	N/A	E/C	(a)	E/C	(a)	
Otay Mesa (E-W) @ La Media (N-S)	City/Caltrans	B/C	N/A	B/C	N/A	B/C	N/A	B/D	N/A	B/D	N/A	
Otay Mesa (E-W) @ Piper Ranch (N-S)	County/City/Caltrans	A/A	N/A	A/A	N/A	B/A	N/A	C/A	N/A	C/A	N/A	
Otay Mesa (E-W) @ SR-125 SB (N-S)	County/City/SBX	B/A	N/A	B/A	N/A	B/A	N/A	B/A	N/A	B/A	N/A	
Otay Mesa (E-W) @ SR-125 NB (N-S)	County/City/SBX	A/A	N/A	A/A	N/A	A/B	N/A	A/D	N/A	A/D	N/A	
Otay Mesa (E-W) @ SR-905 (N-S)	County/City/SBX	B/C	N/A	C/E	(b)	E/F	(b)	F/F	(b)	F/F	(b)	
Otay Mesa (E-W) @ Sanyo (N-S)	County/City	A/C	N/A	B/F	A/B	A/F	A/B	B/F	C/C	C/F	C/C	
Otay Mesa (E-W) @ Enrico Fermi (N-S)	County/City	C/B	N/A	F/B	B/A	F/F	C/B	F/F	B/C	F/F	B/C	
Otay Mesa (E-W) @ Alta (N-S)	County/City	F/F	B/C	F/F	C/D	F/F	D/D	F/F	C/C	F/F	C/C	
Airway (E-W) @ La Media	County/City	B/B	N/A	B/C	N/A	B/C	N/A	B/B	N/A	B/C	N/A	
Airway (E-W) @ Sanyo (N-S)	City	A/A	N/A	A/A	N/A	A/B	N/A	B/B	N/A	B/B	N/A	
Airway (E-W) @ Paseo De Las Americas (N-S)	County/City	A/B	N/A	A/B	N/A	A/B	N/A	B/B	N/A	B/B	N/A	
Airway (E-W) @ Michael Faraday (N-S)	County/City	A/A	N/A	A/A	N/A	A/A	N/A	B/B	N/A	B/B	N/A	
Airway (E-W) @ Enrico Fermi (N-S)	County/City	A/B	N/A	A/A	N/A	A/A	N/A	C/C	N/A	C/C	N/A	
Siempre Viva (E-W) @ La Media (N-S)	City	A/B	N/A	A/B	N/A	A/A	N/A	A/B	N/A	A/B	N/A	
Siempre Viva (E-W) @ SR-905 SB off to Siempre Viva EB (N-S)	Caltrans	A/A	N/A	A/A	N/A	A/A	N/A	A/A	N/A	A/A	N/A	

(a) Completion of SR-905 Phases 1A & 1B will mitigate the direct impact.

(b) The intersection is temporary direct impact that will be removed with completion of SR-905 Phase 1A.

Bold = Jurisdiction which capacity is based on; Mit. = Mitigation; N/A = Not Applicable; E-W = East-West Roadway; N-S = North-South Roadway

Table 44 (Continued) – Summary of Direct Mitigation Intersection Level of Service												
Intersection	Jurisdiction	Existing + Unit 1		Existing + Units 1-2		Existing + Units 1-3		Existing + Units 1-4		Existing + Units 1-5		
		Before Mit. (AM/PM)	After Mit. (AM/PM)	Before Mit. (AM/PM)	After Mit. (AM/PM)	Before Mit. (AM/PM)	After Mit. (AM/PM)	Before Mit. (AM/PM)	After Mit. (AM/PM)	Before Mit. (AM/PM)	After Mit. (AM/PM)	
Siempre Viva (E-W) @ SR-905 SB off to Siempre Viva WB (N-S)	Caltrans	B/B	N/A	B/B	N/A	B/B	N/A	B/B	N/A	B/B	N/A	N/A
Siempre Viva (E-W) @ SR-905 NB Ramp (N-S)	Caltrans	B/B	N/A	B/B	N/A	B/B	N/A	B/B	N/A	B/B	N/A	N/A
Siempre Viva (E-W) @ Paseo De Las Americas (N-S)	City	C/D	N/A	C/D	N/A	C/D	N/A	C/D	N/A	C/D	N/A	N/A
Siempre Viva (E-W) @ Michael Faraday (N-S)	City	C/B	N/A	C/B	N/A	C/B	N/A	C/B	N/A	C/C	N/A	N/A
Siempre Viva (E-W) @ Enrico Fermi (N-S)	County/City	B/B	N/A	B/B	N/A	B/B	N/A	B/A	N/A	B/B	N/A	N/A
Alta (E-W) @ Lonestar (N-S)	County	A/A	N/A	A/A	N/A	A/A	N/A	A/A	N/A	A/A	N/A	N/A
(a) Completion of SR-905 Phases 1A & 1B will mitigate the direct impact.												
(b) The intersection is temporary direct impact that will be removed with completion of SR-905 Phase 1A.												
Bold = Jurisdiction which capacity is based on; Mit = Mitigation; N/A = Not Applicable; E-W = East-West Roadway; N-S = North-South Roadway												

Table 45 – Summary of Cumulative Mitigation Intersection Level of Service			
Intersection	Jurisdiction	Before Mitigation (AM/PM)	After Mitigation (AM/PM)
Otay Mesa (E-W) @ Heritage (N-S)	City/Caltrans	C/B	N/A
Otay Mesa (E-W) @ Cactus (N-S)	City/Caltrans	A/B	N/A
Otay Mesa (E-W) @ Britannia (N-S)	City/Caltrans	A/B	N/A
Otay Mesa (E-W) @ La Media (N-S)	City/Caltrans	B/C	N/A
Otay Mesa (E-W) @ Piper Ranch (N-S)	County/City/Caltrans	A/A	N/A
Otay Mesa (E-W) @ SR-125 SB (N-S)	County/City/SBX	B/A	N/A
Otay Mesa (E-W) @ SR-125 NB (N-S)	County/City/SBX	A/A	N/A
Otay Mesa (E-W) @ Harvest (N-S)	County/City	B/C	N/A
Otay Mesa (E-W) @ Sanyo (N-S)	County/City	B/D	N/A
Otay Mesa (E-W) @ Vann Centre (N-S)	County/City	C/F	B/D
Otay Mesa (E-W) @ Enrico Fermi (N-S)	County/City	C/C	N/A
Otay Mesa (E-W) @ Alta (N-S)	County/City	F/F	B/C
Airway (E-W) @ La Media	County/City	B/C	N/A
Airway (E-W) @ Sanyo (N-S)	City	F/F	C/C
Airway (E-W) @ Paseo De Las Americas (N-S)	County/City	F/F	C/C
Airway (E-W) @ Michael Faraday (N-S)	County/City	B/C	N/A
Airway (E-W) @ Enrico Fermi (N-S)	County/City	C/C	N/A
Siempre Viva (E-W) @ SR-905 SB off to Siempre Viva EB (N-S)	Caltrans	A/B	N/A
Siempre Viva (E-W) @ SR-905 SB off to Siempre Viva WB (N-S)	Caltrans	D/C	N/A
Siempre Viva (E-W) @ SR-905 NB Ramp (N-S)	Caltrans	B/B	N/A
Siempre Viva (E-W) @ Paseo De Las Americas (N-S)	City	D/D	N/A
Siempre Viva (E-W) @ Michael Faraday (N-S)	City	F/F	B/B
Siempre Viva (E-W) @ Enrico Fermi (N-S)	County/City	B/C	N/A
Alta (E-W) @ Calzada De La Fuente(N-S)	County	C/C	N/A
Alta (E-W) @ Lonestar (N-S)	County	B/C	N/A
(a) The project does not add traffic to this intersection; thus, there is no significant impact. (b) Mitigation required to provide acceptable levels of service exceeds what is identified in the Specific Plan, requires overriding considerations. Bold = Jurisdiction which capacity is based on; N/A = Not Applicable; E-W = East-West Roadway; N-S = North-South Roadway			

SECTION X – SUMMARY OF FINDINGS AND CONCLUSIONS

- The Otay Crossings Commerce Park project is a Tentative Map (TM) and Preliminary Grading Plan (Tract 5405) for 311.5 acres of land designated for Mixed Industrial, Rural Residential and State Route (i.e., SR-11) use in Subarea 2 of the East Otay Mesa Specific Plan (EOMSP).
- The future route for SR-11 traverses the site and the future U.S. Port-of-Entry is situated on the south portion of the site. The TM will subdivide the property into 59 lots (56 industrial lots and 3 open space lots) ranging in size from 0.90 net acres to 95.4 net acres.
- Grading for the proposed project will be completed in two phases. Grading for Phase 1 comprises of three final maps (units 1, 2, and 3) and Grading for Phase 2 comprises two final maps (units 4 and 5). The project proposes to construct the project in the following timeline: construct Unit 1 by 2011, construct Unit 2 by 2012, construct Unit 3 by 2013, and construct Units 4 and 5 by 2014.
- Since SR-905 Phase 1A is scheduled to be completed by 2010 and SR-905 Phase 1B is anticipated to be completed by March 2012; Units 1 and 2 of the proposed project should be completed prior to the completion of SR-905 Phase 1B while Units 3-5 would not be completed until after SR-905 Phase 1B was completed. To assess the worse case scenario, however, this traffic study has assessed the direct traffic impacts of all five (5) units of the proposed units without the completion of the SR-905 facility. The cumulative traffic impacts of all five (5) units of the proposed project were assessed both without the SR-905 and with the completion of Phases 1A and 1B of the SR-905.
- Per the proposed site plan, in the near term when the developer will be utilizing the area set aside for the future SR-11 right-of-way for truck parking, the proposed project is estimated to generate 21,279 daily trips, 2,853 AM peak hour trips, and 3,017 PM peak hour trips. Once the SR-11 is constructed and the truck parking facility is no longer being utilized, the project will generate 18,768 daily trips, 2,627 AM peak hour trips, and 2,816 PM peak hour trips. It should be noted that to assess the worse case scenario, the full trip generation potential was analyzed in this report.
- Please refer to Section IX of this report for a summary of the project's impacts and recommended mitigation measures.

OTAY CROSSINGS COMMERCE PARK

APPENDIX B

TRAFFIC IMPACT STUDY (VOL. II)

to the

DRAFT SUPPLEMENTAL
ENVIRONMENTAL IMPACT REPORT

EIR 93-19-006Q, TM 5405RPL⁷
SCH No. 2006041039

Lead Agency:

County of San Diego
Department of Planning and Land Use
5201 Ruffin Road, Suite B
San Diego, California 92123
Contact: Robert Hingtgen
(858) 694-3712

MAY 2010

APPENDIX A

- 24 Hour Machine Counts
 - AM/PM Peak Hour Traffic Counts
 - City & County of San Diego Level of Service Thresholds
- Excerpts for the County of San Diego's Public Facility Element (PFE)
 - Excerpts from County of San Diego Public Road Standards
 - SANDAG's Trip Generation Rates
 - Excerpts from City of San Diego Trip Generation Manual
- Excerpts from City of San Diego's Significance Determination Thresholds
- Excerpts from Caltrans Guidelines for the Preparation of Traffic Impact Studies
 - Excerpts from East Otay Mesa Specific Plan
 - County's Guidelines for Determining Significance

24 Hour Machine Counts

MetroCount Traffic Executive Event Counts

EventCount-358 -- English (ENU)

Datasets:

Site: [8017.01] OTAY MESA RD (HERITAGE RD-INNOVATIVE DR) EASTBOUND
Input A: 2 - East bound. - Added to totals. (1)
Input B: 0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration: 23:05 Wednesday, February 27, 2008 => 9:30 Saturday, March 01, 2008
File: C:\Users\Gus\True Count\Projects\8017 DA OTAY\8017.01.E03Mar2008.EC0 (Base)
Identifier: V289W1MS MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Thursday, February 28, 2008 => 0:00 Friday, February 29, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 34985 / 77091 (45.38%)

* Thursday, February 28, 2008=34985, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
293	240	224	369	435	1366	2011	2864	2706	2340	1935	2030	2105	2230	2141	2298	2109	1901	1483	1059	817	836	720	473	
79	60	47	61	82	141	373	583	716	590	461	512	483	555	579	494	496	576	402	316	214	208	207	111	-
92	82	42	79	104	300	403	654	677	617	496	484	516	552	549	662	515	473	357	293	200	250	195	146	-
66	49	68	121	113	444	572	786	622	619	495	494	525	588	494	560	570	440	392	258	196	195	149	117	-
56	49	67	108	136	481	663	841	691	514	483	540	581	535	519	582	528	412	332	192	207	183	169	99	-

AM Peak 0730 - 0830 (3020), AM PHF=0.90

MetroCount Traffic Executive Event Counts

EventCount-359 -- English (ENU)

Datasets:

Site: [8017.01] OTAY MESA RD (HERITAGE RD-INNOVATIVE DR) WESTBOUND
Input A: 2 - West bound. - Added to totals. (1)
Input B: 0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration: 23:09 Wednesday, February 27, 2008 => 9:34 Saturday, March 01, 2008
File: C:\Users\Gus\True Count\Projects\8017 DA OTAY\8017.01.W01Mar2008.EC0 (Regular)
Identifier: T5441WJP MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Thursday, February 28, 2008 => 0:00 Friday, February 29, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 35876 / 76876 (46.67%)

* Thursday, February 28, 2008=35875, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
388	249	282	469	956	1079	1399	1464	1520	1793	1962	2187	2290	2263	2760	2779	2816	2708	1988	1378	1059	791	795	500	-
111	53	62	81	212	262	294	392	384	445	492	562	542	565	673	721	755	663	572	367	316	210	268	133	-
93	86	71	92	252	262	374	332	391	436	507	483	559	497	654	641	751	721	508	347	290	217	254	107	-
110	75	75	127	252	231	356	394	373	463	523	536	595	632	699	685	678	782	499	323	239	185	142	148	-
74	35	74	169	240	324	375	346	372	449	440	606	594	569	734	732	632	642	409	341	214	170	131	112	-

AM Peak 1145 - 1245 (2302), AM PHF=0.95

MetroCount Traffic Executive Event Counts

EventCount-360 -- English (ENU)

Datasets:

Site: [8017.02] OTAY MESA RD (CACTUS RD-HERITAGE RD) EASTBOUND
Input A: 2 - East bound. - Added to totals. (1)
Input B: 0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration: 22:25 Wednesday, February 27, 2008 => 9:25 Saturday, March 01, 2008
File: C:\Users\Gus\True Count\Projects\8017 DA OTAY\8017.02.E01Mar2008.EC0 (Base)
Identifier: V273S0NX MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Thursday, February 28, 2008 => 0:00 Friday, February 29, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 34490 / 76142 (45.30%)

* Thursday, February 28, 2008=34489, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
286	245	203	371	400	1355	1992	2931	2623	2259	1893	2003	2057	2153	2132	2221	2087	1985	1524	1049	802	785	683	450	
83	62	43	63	77	145	350	587	716	631	480	544	505	578	537	442	520	584	411	304	212	179	194	106	-
77	81	44	78	82	298	418	612	656	566	477	466	499	543	601	588	523	540	373	302	192	247	199	121	-
70	52	57	116	111	409	569	815	658	555	479	456	520	551	482	556	518	456	402	248	194	177	141	129	-
56	50	59	114	130	503	655	917	593	507	457	535	533	481	512	635	526	405	338	195	204	182	149	94	-

AM Peak 0730 - 0830 (3104), AM PHF=0.85

MetroCount Traffic Executive Event Counts

EventCount-361 -- English (ENU)

Datasets:

Site: [8017.02] OTAY MESA RD (CACTUS RD-HERITAGE RD) WESTBOUND
Input A: 4 - West bound. - Added to totals. (1)
Input B: 0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration: 22:23 Wednesday, February 27, 2008 => 9:24 Saturday, March 01, 2008
File: C:\Users\Gus\True Count\Projects\8017 DA OTAY\8017.02.W01Mar2008.EC0 (Regular)
Identifier: T54701F7 MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Thursday, February 28, 2008 => 0:00 Friday, February 29, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 29810 / 47160 (63.21%)

* Thursday, February 28, 2008=29810, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
277	183	257	343	626	748	1051	1159	1191	1476	1540	1720	1964	1938	2548	2742	2583	2429	1447	1063	820	625	670	410	-
85	38	53	74	128	174	213	284	307	352	387	404	427	467	574	607	660	596	425	292	245	166	232	104	-
63	65	61	60	171	185	278	256	290	356	382	383	486	486	609	660	698	708	347	268	227	178	209	84	-
79	54	69	79	165	185	278	300	295	372	391	475	545	446	735	646	588	774	349	257	187	153	116	129	-
50	26	74	130	162	204	282	319	299	396	380	458	506	539	630	829	637	351	326	246	161	128	113	93	-

AM Peak 1145 - 1245 (1916), AM PHF=0.88

MetroCount Traffic Executive Event Counts

EventCount-362 -- English (ENU)

Datasets:

Site: [8017.03] OTAY MESA RD (BRITANNIA BLVD-CACTUS RD) EASTBOUND
Input A: 2 - East bound. - Added to totals. (1)
Input B: 0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration: 21:45 Wednesday, February 27, 2008 => 9:21 Saturday, March 01, 2008
File: C:\Users\Gus\True Count\Projects\8017 DA OTAY\8017.03.E01Mar2008.EC0 (Regular)
Identifier: S014F2C9 MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Thursday, February 28, 2008 => 0:00 Friday, February 29, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 34099 / 75957 (44.89%)

* Thursday, February 28, 2008=34098, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
276	231	196	356	379	1297	1960	2832	2612	2336	1857	1890	2016	2167	2072	2261	2140	1991	1528	1030	779	788	676	428	-
82	55	41	60	69	131	326	579	774	631	475	476	481	552	528	452	518	549	419	302	199	188	196	96	-
71	76	42	72	78	295	410	638	608	584	492	469	488	572	547	628	492	547	353	278	188	237	187	122	-
69	50	55	102	108	406	507	713	623	535	458	452	509	500	492	568	545	486	409	248	191	174	149	116	-
54	50	58	122	124	465	717	902	607	586	432	493	538	543	505	613	585	409	347	202	201	189	144	94	-

AM Peak 0715 - 0815 (3027), AM PHF=0.84

MetroCount Traffic Executive Event Counts

EventCount-363 -- English (ENU)

Datasets:

Site: [8017.03] OTAY MESA RD (BRITANNIA BLVD-CACTUS RD) WESTBOUND
Input A: 4 - West bound. - Added to totals. (1)
Input B: 0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration: 21:43 Wednesday, February 27, 2008 => 9:18 Saturday, March 01, 2008
File: C:\Users\Gus\True Count\Projects\8017 DA OTAY\8017.03.W01Mar2008.EC0 (Regular)
Identifier: S1079HQB MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Thursday, February 28, 2008 => 0:00 Friday, February 29, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 36982 / 78224 (47.28%)

* Thursday, February 28, 2008=36982, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
370	240	282	465	973	1103	1442	1582	1624	1939	2088	2284	2549	2502	2860	3092	2762	2608	1837	1377	988	758	774	483	
111	59	69	86	218	283	304	410	411	464	493	540	586	601	648	756	777	763	561	384	283	226	269	111	-
89	76	64	89	269	259	392	374	403	480	503	531	622	604	723	697	633	752	444	353	277	193	240	117	-
110	70	79	122	265	252	392	402	386	453	544	654	678	585	835	882	739	631	450	324	220	171	142	148	-
60	35	70	168	221	309	354	396	424	542	548	559	663	712	654	757	613	462	382	316	208	168	123	107	-

AM Peak 1145 - 1245 (2445), AM PHF=0.90

MetroCount Traffic Executive Event Counts

EventCount-364 -- English (ENU)

Datasets:

Site: [8017.04] OTAY MESA RD (LA MEDIA RD-BRITANNIA BLVD) EASTBOUND
Input A: 2 - East bound. - Added to totals. (1)
Input B: 0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration: 22:09 Monday, February 25, 2008 => 21:30 Wednesday, February 27, 2008
File: C:\Users\Gus\True Count\Projects\8017 DA OTAY\8017.04.E27Feb2008.EC0 (Regular)
Identifier: T5450FAN MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Tuesday, February 26, 2008 => 0:00 Wednesday, February 27, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 26636 / 52651 (50.59%)

* Tuesday, February 26, 2008=26636, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
233	186	167	274	249	878	1240	1962	1863	1770	1435	1401	1660	1699	1708	1718	1905	1784	1402	907	708	693	470	324	-
54	46	41	53	52	91	245	419	547	422	364	319	405	474	417	351	462	451	388	245	174	170	132	102	-
62	40	42	57	46	173	210	512	456	462	381	335	429	426	400	445	462	462	354	232	192	192	108	63	-
62	46	41	79	92	292	362	449	407	453	381	372	475	381	419	456	473	489	334	227	195	164	116	77	-
55	54	43	85	59	322	423	583	453	433	309	375	351	418	472	466	508	382	326	203	147	167	114	82	-

AM Peak 0715 - 0815 (2090), AM PHF=0.90

MetroCount Traffic Executive Event Counts

EventCount-365 -- English (ENU)

Datasets:

Site: [8017.04] OTAY MESA RD (LA MEDIA RD-BRITANNIA BLVD) WESTBOUND
Input A: 4 - West bound. - Added to totals. (1)
Input B: 0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration: 22:06 Monday, February 25, 2008 => 21:13 Wednesday, February 27, 2008
File: C:\Users\Gus\True Count\Projects\8017 DA OTAY\8017.04.W27Feb2008.EC0 (Regular)
Identifier: T54701F7 MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Tuesday, February 26, 2008 => 0:00 Wednesday, February 27, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 32364 / 62532 (51.76%)

* Tuesday, February 26, 2008=32363, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
321	221	232	462	890	1058	1583	1559	1639	1811	1885	1970	1918	1979	2224	2365	2288	2162	1711	1382	918	628	733	424	-
93	61	59	50	195	256	344	415	378	441	494	481	477	511	528	551	617	694	453	359	244	172	238	105	-
77	47	51	71	223	265	404	346	387	427	489	490	509	507	545	571	545	603	454	373	244	134	197	89	-
83	54	68	158	255	257	394	364	440	469	441	520	427	437	579	642	610	463	450	339	221	178	182	132	-
68	59	54	183	217	280	441	434	434	474	461	479	505	524	572	601	516	402	354	311	209	144	116	98	-

AM Peak 1130 - 1230 (1985), AM PHF=0.95

MetroCount Traffic Executive Event Counts

EventCount-366 -- English (ENU)

Datasets:

Site: [8017.05] OTAY MESA RD (PIPER RANCH RD-LA MEDIA RD) EASTBOUND
Input A: 4 - West bound. - Added to totals. (1)
Input B: 0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration: 21:22 Monday, February 25, 2008 => 21:16 Wednesday, February 27, 2008
File: C:\Users\Gus\True Count\Projects\8017 DA OTAY\8017.05.E27Feb2008.EC0 (Base)
Identifier: V273S0NX MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Tuesday, February 26, 2008 => 0:00 Wednesday, February 27, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 20086 / 39973 (50.25%)

* Tuesday, February 26, 2008=20085, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
147	74	74	126	137	635	950	1419	1336	1321	1036	1100	1183	1165	1260	1341	1504	1473	1194	782	613	583	388	244	-
37	22	18	24	24	48	203	289	415	301	268	251	314	327	337	279	340	396	312	231	161	136	103	72	-
41	3	28	29	31	136	179	390	318	327	257	263	298	295	297	311	393	386	313	192	166	170	93	64	-
36	25	19	32	46	210	253	331	289	369	282	290	308	272	279	386	393	404	291	194	158	144	98	58	-
33	24	9	41	36	241	315	409	314	324	229	296	263	271	347	365	378	287	278	165	128	133	94	50	-

AM Peak 0715 - 0815 (1545), AM PHF=0.93

MetroCount Traffic Executive Event Counts

EventCount-367 -- English (ENU)

Datasets:

Site: [8017.05] OTAY MESA RD (PIPER RANCH RD-LA MEDIA RD) WESTBOUND
Input A: 4 - West bound. - Added to totals. (1)
Input B: 0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration: 21:24 Monday, February 25, 2008 => 21:18 Wednesday, February 27, 2008
File: C:\Users\Gus\True Count\Projects\8017 DA OTAY\8017.05.W27Feb2008.EC0 (Regular)
Identifier: S014F2C9 MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Tuesday, February 26, 2008 => 0:00 Wednesday, February 27, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 24438 / 48158 (50.75%)

* Tuesday, February 26, 2008=24438, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
217	137	136	312	653	752	1214	1267	1314	1425	1356	1447	1487	1465	1757	1852	1813	1680	1234	991	643	446	563	277	
64	38	33	31	146	171	273	334	298	342	302	347	367	319	417	423	488	545	317	259	182	94	189	65	-
52	24	35	48	163	179	300	285	327	325	382	352	417	400	439	469	416	444	330	274	159	113	159	53	-
54	30	39	118	179	199	341	301	367	374	323	382	331	349	496	493	486	372	330	234	166	122	128	102	-
47	45	29	115	165	203	300	347	322	384	349	366	372	397	405	467	423	319	257	224	136	117	87	57	-

AM Peak 1130 - 1230 (1532), AM PHF=0.92

MetroCount Traffic Executive Event Counts

EventCount-395 -- English (ENU)

Datasets:

Site: [8021.00] OTAY MESA RD (PIPER LANE- HWY-125) EASTBOUND
Input A: 4 - West bound. - Excluded from totals. (0)
Input B: 2 - East bound. - Added to totals. (1)
Survey Duration: 23:02 Monday, March 03, 2008 => 22:38 Wednesday, March 05, 2008
File: C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.00.05Mar2008.EC0 (Demo L)
Identifier: W558TFAZ MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Tuesday, March 04, 2008 => 0:00 Wednesday, March 05, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 43110 / 85523 (50.41%)

* Tuesday, March 04, 2008=19996, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
156	83	94	108	107	642	972	1451	1328	1107	1094	1101	1119	1227	1253	1373	1630	1452	1199	779	548	569	377	227	
38	21	13	30	15	54	188	264	353	298	283	261	265	301	290	299	411	386	313	189	150	135	93	49	-
58	29	36	20	31	129	193	384	335	260	277	254	285	296	287	331	440	398	307	218	157	156	98	74	-
39	18	21	27	27	220	278	414	336	280	270	293	299	358	299	370	387	343	307	183	124	125	105	51	-
21	15	24	31	34	239	313	389	304	269	264	293	270	272	377	373	392	325	272	189	117	153	81	53	-

AM Peak 0715 - 0815 (1540), AM PHF=0.93

MetroCount Traffic Executive Event Counts

EventCount-394 -- English (ENU)

Datasets:

Site: [8021.00] OTAY MESA RD (PIPER LANE- HWY-125) WESTBOUND
Input A: 4 - West bound. - Added to totals. (1)
Input B: 2 - East bound. - Excluded from totals. (0)
Survey Duration: 23:02 Monday, March 03, 2008 => 22:38 Wednesday, March 05, 2008
File: C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.00.05Mar2008.EC0 (Demo L)
Identifier: W558TFAZ MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Tuesday, March 04, 2008 => 0:00 Wednesday, March 05, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 43110 / 85523 (50.41%)

* Tuesday, March 04, 2008=23113, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
191	115	132	240	616	851	1105	1237	1209	1269	1273	1374	1429	1436	1687	1909	1687	1495	1066	901	551	434	569	337
53	29	37	49	127	169	252	302	302	277	305	309	343	344	374	489	434	480	326	197	168	108	176	123
55	31	30	42	177	226	291	269	301	333	256	357	354	366	413	467	434	393	284	248	137	108	126	73
39	27	24	62	156	230	260	326	301	320	357	342	379	339	504	523	407	316	241	221	130	120	142	73
44	28	41	87	156	226	302	340	305	339	355	366	353	387	396	430	412	306	215	235	116	98	125	68

AM Peak 1145 - 1245 (1442), AM PHF=0.95

MetroCount Traffic Executive Event Counts

EventCount-230 -- English (ENU)

Datasets:

Site: [8002.01] OTAY MESA RD (HARVEST RD-SR-905) EASTBOUND
Input A: 2 - East bound. - Added to totals. (1)
Input B: 4 - West bound. - Subtracted from totals. (-1)
Survey Duration: 20:39 Tuesday, January 22, 2008 => 11:46 Thursday, January 24, 2008
File: C:\Users\Gus\True Count\Projects\8005 DA OTAY HILLS\8002.0124Jan2008.EC0 (Regular)
Identifier: R513P5FW MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Split (Count)

Profile:

Filter time: 0:00 Wednesday, January 23, 2008 => 0:00 Thursday, January 24, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 17651 / 23126 (76.33%)

* Wednesday, January 23, 2008=1826, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
2	0	2	8	12	207	308	334	230	108	51	66	63	144	72	41	36	36	15	11	10	43	21	6	
0	0	1	0	1	7	101	69	76	35	16	21	12	28	17	9	11	11	5	3	4	2	6	2	-
0	0	0	3	6	26	47	65	60	26	11	10	21	23	18	8	12	6	4	5	3	6	7	0	-
0	0	0	0	5	60	55	74	53	23	10	19	15	50	15	9	5	7	4	2	1	19	3	1	-
2	0	1	5	0	114	105	126	41	24	14	16	15	43	22	15	8	12	2	1	2	16	5	3	-

AM Peak 0715 - 0815 (341), AM PHF=0.68

MetroCount Traffic Executive Event Counts

EventCount-231 -- English (ENU)

Datasets:

Site: [8002.01] OTAY MESA RD (HARVEST RD-SR-905) WESTBOUND
Input A: 2 - East bound. - Excluded from totals. (0)
Input B: 4 - West bound. - Added to totals. (1)
Survey Duration: 20:39 Tuesday, January 22, 2008 => 11:46 Thursday, January 24, 2008
File: C:\Users\Gus\True Count\Projects\8005 DA OTAY HILLS\8002.0124Jan2008.EC0 (Regular)
Identifier: R513P5FW MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Split (Count)

Profile:

Filter time: 0:00 Wednesday, January 23, 2008 => 0:00 Thursday, January 24, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 17651 / 23126 (76.33%)

* Wednesday, January 23, 2008=7912, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
27	16	10	18	17	13	286	397	298	328	425	471	491	457	835	1084	939	779	344	161	101	88	256	71	
5	5	2	4	4	2	19	67	51	47	121	104	121	103	207	306	199	241	91	63	21	34	108	20	-
3	8	5	3	9	1	79	75	78	105	86	133	115	126	233	305	230	248	112	32	23	24	90	7	-
14	2	0	2	1	2	97	126	76	75	113	104	128	89	217	206	233	187	69	35	33	17	29	14	-
5	1	3	9	3	8	91	129	93	101	105	130	127	139	178	267	277	103	72	31	24	13	29	30	-

AM Peak 1145 - 1245 (494), AM PHF=0.95

MetroCount Traffic Executive Event Counts

EventCount-233 -- English (ENU)

Datasets:

Site: [8002.02] OTAY MESA RD (SANYO AVE-HARVEST RD) EASTBOUND
Input A: 4 - West bound. - Excluded from totals. (0)
Input B: 2 - East bound. - Added to totals. (1)
Survey Duration: 20:17 Tuesday, January 22, 2008 => 11:49 Thursday, January 24, 2008
File: C:\Users\Gus\True Count\Projects\8005 DA OTAY HILLS\8002.0224Jan2008.EC0 (Regular)
Identifier: S1339PHE MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Split (Count)

Profile:

Filter time: 0:00 Wednesday, January 23, 2008 => 0:00 Thursday, January 24, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 10075 / 14832 (67.93%)

* Wednesday, January 23, 2008=1849, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
2	1	2	11	9	201	302	341	227	104	47	65	65	142	72	41	45	46	16	16	11	53	24	6	
0	0	1	0	1	8	101	75	78	33	13	21	13	28	22	7	12	10	4	7	3	2	8	3	-
0	1	0	3	2	23	48	66	54	22	8	9	17	25	15	6	15	10	5	5	4	7	5	0	-
0	0	0	0	6	61	47	75	55	21	10	18	16	48	10	7	7	14	3	2	2	25	5	1	-
2	0	1	8	0	109	106	125	40	28	16	17	19	41	25	21	11	12	4	2	2	19	6	2	-

AM Peak 0715 - 0815 (344), AM PHF=0.69

MetroCount Traffic Executive Event Counts

EventCount-232 -- English (ENU)

Datasets:

Site: [8002.02] OTAY MESA RD (SANYO AVE-HARVEST RD) WESTBOUND
Input A: 4 - West bound. - Added to totals. (1)
Input B: 2 - East bound. - Subtracted from totals. (-1)
Survey Duration: 20:17 Tuesday, January 22, 2008 => 11:49 Thursday, January 24, 2008
File: C:\Users\Gus\True Count\Projects\8005 DA OTAY HILLS\8002.0224Jan2008.EC0 (Regular)
Identifier: S1339PHE MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Split (Count)

Profile:

Filter time: 0:00 Wednesday, January 23, 2008 => 0:00 Thursday, January 24, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 10075 / 14832 (67.93%)

* Wednesday, January 23, 2008=6375, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
27	18	11	14	18	24	250	306	245	245	329	377	382	336	650	883	776	595	288	132	92	70	239	68	-
5	5	4	4	4	2	18	58	47	41	82	88	103	73	167	262	182	203	77	50	22	31	102	18	-
3	5	4	2	8	1	75	65	61	66	66	110	86	93	180	236	185	180	95	26	19	20	83	7	-
14	7	0	2	2	6	90	90	64	63	93	82	99	71	172	174	199	131	62	30	31	10	26	13	-
5	1	3	6	4	15	67	93	73	75	88	97	94	99	131	211	210	81	54	26	20	9	28	30	-

AM Peak 1115 - 1215 (392), AM PHF=0.89

MetroCount Traffic Executive Event Counts

EventCount-235 -- English (ENU)

Datasets:

Site: [8002.03] OTAY MESA RD (ENRICO FERMI DR-SANYO AVE) EASTBOUND
Input A: 4 - West bound. - Excluded from totals. (0)
Input B: 2 - East bound. - Added to totals. (1)
Survey Duration: 19:56 Tuesday, January 22, 2008 => 11:44 Thursday, January 24, 2008
File: C:\Users\Gus\True Count\Projects\8005 DA OTAY HILLS\8002.0324Jan2008.EC0 (Regular)
Identifier: S1079HQB MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Split (Count)

Profile:

Filter time: 0:00 Wednesday, January 23, 2008 => 0:00 Thursday, January 24, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 12619 / 19267 (65.50%)

* Wednesday, January 23, 2008=3484, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
10	12	9	30	30	446	617	529	289	157	124	149	147	246	168	85	71	86	41	37	28	103	59	11	
0	7	2	2	7	15	187	123	111	32	37	33	33	51	45	27	25	21	5	18	14	7	18	7	-
2	0	3	5	4	67	139	129	80	45	23	22	43	34	44	12	18	20	12	7	6	16	12	1	-
4	3	1	6	10	140	112	118	56	35	19	45	44	99	33	20	12	27	9	6	4	40	12	2	-
4	2	3	17	9	224	179	159	42	45	45	49	27	62	46	26	16	18	15	6	4	40	17	1	-

AM Peak 0530 - 0630 (690), AM PHF=0.77

MetroCount Traffic Executive Event Counts

EventCount-234 -- English (ENU)

Datasets:

Site: [8002.03] OTAY MESA RD (ENRICO FERMI DR-SANYO AVE) WESTBOUND
Input A: 4 - West bound. - Added to totals. (1)
Input B: 2 - East bound. - Subtracted from totals. (-1)
Survey Duration: 19:56 Tuesday, January 22, 2008 => 11:44 Thursday, January 24, 2008
File: C:\Users\Gus\True Count\Projects\8005 DA OTAY HILLS\8002.0324Jan2008.EC0 (Regular)
Identifier: S1079HQB MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Split (Count)

Profile:

Filter time: 0:00 Wednesday, January 23, 2008 => 0:00 Thursday, January 24, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 12619 / 19267 (65.50%)

* Wednesday, January 23, 2008=5649, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
25	14	11	17	12	8	243	257	203	221	279	316	301	270	651	916	665	430	230	106	78	80	251	65	
5	5	4	4	0	2	18	48	36	45	76	72	82	58	177	344	152	150	67	46	14	31	113	16	-
0	6	4	3	7	2	79	49	54	47	56	88	55	65	177	191	165	132	67	22	22	17	79	7	-
14	2	0	2	1	1	83	78	64	64	75	74	82	59	180	198	180	93	49	23	23	19	36	19	-
6	1	3	8	4	3	63	82	49	65	72	82	82	88	117	183	168	55	47	15	19	13	23	23	-

AM Peak 1115 - 1215 (326), AM PHF=0.93

MetroCount Traffic Executive Event Counts

EventCount-237 -- English (ENU)

Datasets:

Site: [8002.04] OTAY MESA RD (ALTA RD-ENRICO FERMI DR) EASTBOUND
Input A: 4 - West bound. - Excluded from totals. (0)
Input B: 2 - East bound. - Added to totals. (1)
Survey Duration: 19:46 Tuesday, January 22, 2008 => 11:51 Thursday, January 24, 2008
File: C:\Users\Gus\True Count\Projects\8005 DA OTAY HILLS\8002.0424Jan2008.EC0 (Regular)
Identifier: T54701F7 MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Split (Count)

Profile:

Filter time: 0:00 Wednesday, January 23, 2008 => 0:00 Thursday, January 24, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 10435 / 16536 (63.10%)

* Wednesday, January 23, 2008=3506, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
13	15	10	45	35	449	678	552	266	129	106	131	134	241	158	76	65	91	44	43	37	105	69	14	
0	8	3	3	8	19	207	130	99	30	31	25	34	39	45	23	19	24	8	17	14	7	21	7	-
3	0	1	6	6	64	163	132	77	31	20	19	39	44	37	21	17	22	13	10	6	16	13	3	-
3	3	2	15	12	141	118	128	51	33	18	44	40	90	31	12	11	26	8	7	11	42	15	2	-
7	4	4	21	9	225	190	162	39	35	37	43	21	68	45	20	18	19	15	9	6	40	20	2	-

AM Peak 0530 - 0630 (736), AM PHF=0.82

MetroCount Traffic Executive Event Counts

EventCount-236 -- English (ENU)

Datasets:

Site: [8002.04] OTAY MESA RD (ALTA RD-ENRICO FERMI DR) WESTBOUND
Input A: 4 - West bound. - Added to totals. (1)
Input B: 2 - East bound. - Subtracted from totals. (-1)
Survey Duration: 19:46 Tuesday, January 22, 2008 => 11:51 Thursday, January 24, 2008
File: C:\Users\Gus\True Count\Projects\8005 DA OTAY HILLS\8002.0424Jan2008.EC0 (Regular)
Identifier: T54701F7 MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Split (Count)

Profile:

Filter time: 0:00 Wednesday, January 23, 2008 => 0:00 Thursday, January 24, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 10435 / 16536 (63.10%)

* Wednesday, January 23, 2008=3422, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
24	9	10	20	12	10	171	105	84	71	131	151	145	118	390	633	505	212	108	67	62	87	239	58	-
5	3	3	5	0	2	24	10	15	23	33	32	35	24	88	261	127	98	15	21	13	30	105	15	-
0	2	4	3	6	2	59	19	17	6	34	34	42	32	112	103	128	52	35	17	18	18	83	7	-
14	3	0	8	1	1	51	24	23	21	29	48	38	25	125	142	131	39	24	16	21	19	32	17	-
5	1	3	4	5	5	37	52	29	21	35	37	30	37	65	127	119	23	34	13	10	20	19	19	-

AM Peak 0600 - 0700 (171), AM PHF=0.72

MetroCount Traffic Executive Event Counts

EventCount-374 -- English (ENU)

Datasets:

Site: [8017.09] AIRWAY RD (HWY-905-LA MEDIA RD) EASTBOUND
Input A: 2 - East bound. - Added to totals. (1)
Input B: 0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration: 18:59 Monday, February 25, 2008 => 21:27 Wednesday, February 27, 2008
File: C:\Users\Gus\True Count\Projects\8017 DA OTAY\8017.09.E27Feb2008.EC0 (Regular)
Identifier: S1339PHE MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Tuesday, February 26, 2008 => 0:00 Wednesday, February 27, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 4073 / 8348 (48.79%)

* Tuesday, February 26, 2008=4072, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
24	45	21	19	23	43	106	190	242	298	310	281	372	268	307	315	327	364	203	113	68	69	28	36	-
8	5	2	2	6	2	15	27	67	62	84	72	89	55	68	67	99	109	54	44	28	26	6	5	-
3	32	0	6	11	16	8	33	52	73	74	69	80	57	83	97	92	91	54	22	16	15	8	8	-
4	6	13	4	3	11	33	63	48	87	56	79	119	87	71	67	70	88	44	31	14	17	6	15	-
9	2	6	7	3	14	50	67	75	76	96	61	84	69	85	84	66	76	51	16	10	11	8	8	-

AM Peak 1145 - 1245 (349), AM PHF=0.73

MetroCount Traffic Executive Event Counts

EventCount-375 -- English (ENU)

Datasets:

Site: [8017.09] AIRWAY RD (HWY-905-LA MEDIA RD) WESTBOUND
Input A: 4 - West bound. - Added to totals. (1)
Input B: 0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration: 19:13 Monday, February 25, 2008 => 21:28 Wednesday, February 27, 2008
File: C:\Users\Gus\True Count\Projects\8017 DA OTAY\8017.09.W27Feb2008.EC0 (Base)
Identifier: V286M0GP MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Tuesday, February 26, 2008 => 0:00 Wednesday, February 27, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 4022 / 8244 (48.79%)

* Tuesday, February 26, 2008=4021, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
15	29	14	37	52	79	180	201	237	337	307	341	338	350	308	292	308	229	167	94	32	31	27	16	
2	0	4	7	7	9	19	45	74	87	68	87	69	74	56	75	84	54	51	27	12	14	9	5	-
3	14	3	9	18	23	40	50	66	71	78	62	81	95	63	66	68	78	33	35	10	6	8	2	-
4	9	2	10	15	23	55	49	50	91	69	103	84	88	92	57	83	51	39	19	2	5	5	6	-
6	6	5	11	12	24	66	57	47	88	92	89	104	93	97	94	73	46	44	13	8	6	5	3	-

AM Peak 1045 - 1145 (344), AM PHF=0.83

MetroCount Traffic Executive Event Counts

EventCount-372 -- English (ENU)

Datasets:

Site: [8017.08] AIRWAY RD (SANYO AVE-HWY-905) EASTBOUND
Input A: 2 - East bound. - Added to totals. (1)
Input B: 0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration: 20:13 Monday, February 25, 2008 => 21:23 Wednesday, February 27, 2008
File: C:\Users\Gus\True Count\Projects\8017 DA OTAY\8017.08.E27Feb2008.EC0 (Regular)
Identifier: T5441WJP MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Tuesday, February 26, 2008 => 0:00 Wednesday, February 27, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 3705 / 7161 (51.74%)

* Tuesday, February 26, 2008=3705, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
34	21	6	15	21	64	157	280	305	361	344	300	313	312	260	272	233	182	90	55	29	25	17	9	
4	2	5	2	1	3	30	44	94	78	95	51	71	85	60	73	54	54	25	23	6	2	10	1	-
11	13	0	3	9	13	18	51	66	86	97	82	71	72	78	66	58	36	35	10	8	7	0	2	-
7	6	1	1	3	20	38	81	61	96	62	74	100	99	70	65	66	59	10	10	8	12	3	3	-
12	0	0	9	8	28	71	104	84	101	90	93	71	56	52	68	55	33	29	12	7	4	4	3	-

AM Peak 0930 - 1030 (389), AM PHF=0.96

MetroCount Traffic Executive Event Counts

EventCount-373 -- English (ENU)

Datasets:

Site: [8017.08] AIRWAY RD (SANYO AVE-HWY-905) WESTBOUND
Input A: 4 - West bound. - Added to totals. (1)
Input B: 0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration: 20:15 Monday, February 25, 2008 => 21:28 Wednesday, February 27, 2008
File: C:\Users\Gus\True Count\Projects\8017 DA OTAY\8017.08.W27Feb2008.EC0 (Regular)
Identifier: T575QTP3 MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Tuesday, February 26, 2008 => 0:00 Wednesday, February 27, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 5927 / 11354 (52.20%)

* Tuesday, February 26, 2008=5926, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
8	1	2	13	27	22	192	192	252	474	474	507	537	511	517	516	520	488	384	153	61	32	22	21	-
3	0	0	1	0	1	17	38	65	71	94	144	139	131	110	131	128	142	130	44	20	11	9	10	-
3	0	1	1	17	10	41	40	79	114	136	103	121	141	135	115	118	134	83	69	16	1	4	0	-
2	0	1	7	3	5	51	45	51	145	121	128	139	120	136	90	137	101	103	10	8	16	6	7	-
0	1	0	4	7	6	83	69	57	144	123	132	138	119	136	180	137	111	68	30	17	4	3	4	-

AM Peak 1145 - 1245 (531), AM PHF=0.96

MetroCount Traffic Executive Event Counts

EventCount-423 -- English (ENU)

Datasets:

Site: [8021.14] AIRWAY RD (PASEO DE LAS AMERICAS-SANYO AVE) EASTBOUND
Input A: 2 - East bound. - Added to totals. (1)
Input B: 0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration: 21:37 Wednesday, March 05, 2008 => 12:12 Friday, March 07, 2008
File: C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.14.E07Mar2008.EC0 (Regular)
Identifier: T5441WJP MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Thursday, March 06, 2008 => 0:00 Friday, March 07, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 2224 / 3233 (68.79%)

*** Thursday, March 06, 2008=2224, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
24	3	1	14	11	41	69	122	185	219	178	215	166	190	207	178	91	92	47	37	48	45	19	22	-
0	1	0	1	0	7	6	21	51	52	58	76	48	45	53	72	13	27	18	19	2	21	4	5	-
3	2	0	10	2	8	12	27	45	61	46	29	38	36	60	41	37	24	12	9	9	9	4	2	-
14	0	1	1	7	4	14	33	50	68	32	57	44	47	43	33	19	19	9	3	25	11	5	11	-
7	0	0	2	2	22	37	41	39	38	42	53	36	62	51	32	22	22	8	6	12	4	6	4	-

AM Peak 0915 - 1015 (225), AM PHF=0.83

MetroCount Traffic Executive Event Counts

EventCount-424 -- English (ENU)

Datasets:

Site: [8021.14] AIRWAY RD (PASEO DE LAS AMERICAS-SANYO AVE) WESTBOUND
Input A: 4 - West bound. - Added to totals. (1)
Input B: 0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration: 21:34 Wednesday, March 05, 2008 => 12:13 Friday, March 07, 2008
File: C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.14.W07Mar2008.EC0 (Regular)
Identifier: T575QTP3 MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Thursday, March 06, 2008 => 0:00 Friday, March 07, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 3425 / 4711 (72.70%)

* Thursday, March 06, 2008=3425, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
8	1	1	5	12	26	111	168	226	270	268	291	322	291	293	257	208	296	151	135	46	20	9	10
1	1	0	3	3	1	6	33	53	53	82	72	73	84	61	64	51	92	60	54	12	3	4	6
0	0	0	2	2	6	19	35	52	68	59	80	75	65	77	63	48	66	51	31	18	7	3	1
3	0	1	0	7	13	37	57	65	70	67	63	79	78	89	61	59	68	25	34	10	7	2	1
4	0	0	0	0	6	49	43	56	79	60	76	95	64	66	69	50	70	15	16	6	3	0	2

AM Peak 1145 - 1245 (303), AM PHF=0.96

MetroCount Traffic Executive Event Counts

EventCount-421 -- English (ENU)

Datasets:

Site: [8021.13] AIRWAY RD (MICHAEL FARADAY DR-P. DE LAS AMERICAS) EASTBOUND
Input A: 2 - East bound. - Added to totals. (1)
Input B: 0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration: 21:05 Wednesday, March 05, 2008 => 12:11 Friday, March 07, 2008
File: C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.13.E07Mar2008.EC0 (Regular)
Identifier: S014F2C9 MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Thursday, March 06, 2008 => 0:00 Friday, March 07, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 1938 / 2809 (68.99%)

* Thursday, March 06, 2008=1937, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
11	13	4	10	16	41	76	108	170	191	168	168	170	160	183	144	83	90	34	34	25	15	12	11	
0	0	0	4	3	7	14	16	41	42	47	47	32	32	40	54	18	30	5	12	7	5	2	5	-
2	13	3	3	2	3	12	19	38	45	48	30	52	23	54	34	29	23	11	9	3	2	3	1	-
6	0	1	1	9	6	16	29	47	55	37	55	45	36	48	27	11	18	10	10	13	4	1	3	-
3	0	0	2	2	25	34	44	44	49	36	36	41	69	41	29	25	19	8	3	2	4	6	2	-

AM Peak 0930 - 1030 (199), AM PHF=0.90

MetroCount Traffic Executive Event Counts

EventCount-422 -- English (ENU)

Datasets:

Site: [8021.13] AIRWAY RD (MICHAEL FARADAY DR-P. DE LAS AMERICAS) WESTBOUND
Input A: 4 - West bound. - Added to totals. (1)
Input B: 0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration: 21:07 Wednesday, March 05, 2008 => 12:10 Friday, March 07, 2008
File: C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.13.W07Mar2008.EC0 (Regular)
Identifier: S1079HQB MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Thursday, March 06, 2008 => 0:00 Friday, March 07, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 2596 / 3503 (74.11%)

* Thursday, March 06, 2008=2596, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
1	0	0	4	3	6	111	154	165	230	216	238	258	199	218	193	158	217	102	89	17	11	3	3	-
0	0	0	4	0	0	1	38	30	48	57	62	60	59	46	50	31	67	46	39	4	0	2	3	-
0	0	0	0	0	0	18	36	40	48	52	65	53	51	60	48	43	52	32	20	11	3	0	0	-
1	0	0	0	3	4	51	43	46	58	58	54	65	54	68	41	51	55	20	19	1	7	1	0	-
0	0	0	0	0	2	41	37	49	76	49	57	80	35	44	54	33	43	4	11	1	1	0	0	-

AM Peak 0930 - 1030 (243), AM PHF=0.80

MetroCount Traffic Executive Event Counts

EventCount-419 -- English (ENU)

Datasets:

Site: [8021.12] AIRWAY RD (ENRICO FERMI DR-MICHAEL FARADAY DR) EASTBOUND
Input A: 2 - East bound. - Added to totals. (1)
Input B: 0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration: 20:48 Wednesday, March 05, 2008 => 12:09 Friday, March 07, 2008
File: C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.12.E07Mar2008.EC0 (Regular)
Identifier: T54701F7 MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Thursday, March 06, 2008 => 0:00 Friday, March 07, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 574 / 1324 (43.35%)

*** Thursday, March 06, 2008=574, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
4	0	2	5	9	25	41	54	53	49	47	45	36	31	47	30	21	17	11	11	9	10	8	9	-
0	0	0	1	0	5	4	16	15	8	20	12	6	10	9	12	3	8	3	7	1	1	1	5	-
1	0	0	2	2	4	8	11	7	13	10	11	13	5	14	5	9	2	3	3	0	2	0	0	-
1	0	2	1	4	6	14	10	19	13	9	9	3	8	13	8	4	4	1	1	4	5	1	4	-
2	0	0	1	3	10	15	17	12	15	8	13	14	8	11	5	5	3	4	0	4	2	6	0	-

AM Peak 0915 - 1015 (61), AM PHF=0.76

MetroCount Traffic Executive Event Counts

EventCount-420 -- English (ENU)

Datasets:

Site: [8021.12] AIRWAY RD (ENRICO FERMI DR-MICHAEL FARADAY DR) WESTBOUND
Input A: 4 - West bound. - Added to totals. (1)
Input B: 0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration: 20:38 Wednesday, March 05, 2008 => 12:08 Friday, March 07, 2008
File: C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.12.W07Mar2008.EC0 (Regular)
Identifier: T5450FAN MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Thursday, March 06, 2008 => 0:00 Friday, March 07, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 2344 / 3535 (66.31%)

*** Thursday, March 06, 2008=2344, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
1	0	0	4	0	3	129	161	175	205	194	219	231	169	173	157	143	154	106	95	14	5	3	3	-
0	0	0	0	0	0	4	34	30	39	49	63	45	56	43	45	28	48	41	35	4	0	2	2	-
0	0	0	4	0	0	32	31	57	48	57	61	55	46	37	37	33	35	33	17	9	2	0	0	-
1	0	0	0	0	2	43	50	38	57	50	40	54	38	52	32	46	48	19	27	0	0	1	1	-
0	0	0	0	0	1	50	46	50	61	38	55	77	29	41	43	36	23	13	16	1	3	0	0	-

AM Peak 0930 - 1030 (224), AM PHF=0.92

MetroCount Traffic Executive Event Counts

EventCount-409 -- English (ENU)

Datasets:

Site: [8021.05] SIEMPRE VIVA RD (DRUCKER LN-SR-905 RAMPS) EASTBOUND
Input A: 4 - West bound. - Excluded from totals. (0)
Input B: 2 - East bound. - Added to totals. (1)
Survey Duration: 20:01 Monday, March 03, 2008 => 19:12 Wednesday, March 05, 2008
File: C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.05.05Mar2008.EC0 (Regular)
Identifier: R513P5FW MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Tuesday, March 04, 2008 => 0:00 Wednesday, March 05, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 12977 / 25055 (51.79%)

* Tuesday, March 04, 2008=4745, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
10	12	7	19	18	58	105	226	347	356	369	358	446	371	355	344	365	399	238	135	79	39	51	38	
4	1	0	10	0	13	19	47	82	93	112	101	106	111	96	83	101	123	74	40	19	6	9	12	-
2	6	2	3	6	6	17	63	80	91	68	76	111	88	94	79	85	106	67	51	25	16	16	12	-
1	2	2	3	3	22	27	61	85	83	94	89	129	78	96	107	96	88	57	22	25	5	11	13	-
3	3	3	3	9	17	42	55	100	89	95	92	100	94	69	75	83	82	40	22	10	12	15	1	-

AM Peak 1145 - 1245 (438), AM PHF=0.85

MetroCount Traffic Executive Event Counts

EventCount-408 -- English (ENU)

Datasets:

Site: [8021.05] SIEMPRE VIVA RD (DRUCKER LN-SR-905 RAMPS) WESTBOUND
Input A: 4 - West bound. - Added to totals. (1)
Input B: 2 - East bound. - Excluded from totals. (0)
Survey Duration: 20:01 Monday, March 03, 2008 => 19:12 Wednesday, March 05, 2008
File: C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.05.05Mar2008.EC0 (Regular)
Identifier: R513P5FW MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Tuesday, March 04, 2008 => 0:00 Wednesday, March 05, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 12977 / 25055 (51.79%)

*** Tuesday, March 04, 2008=8231, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
36	14	14	39	60	84	201	340	542	602	685	747	778	730	655	689	628	626	401	171	61	57	38	33	
11	0	2	5	5	13	46	72	115	156	190	195	190	183	159	193	137	160	116	49	15	4	9	7	-
7	4	5	12	18	20	37	77	140	171	156	218	168	193	150	148	191	155	98	62	20	17	12	13	-
11	6	3	12	22	14	39	98	146	134	168	134	186	182	167	175	145	172	105	39	12	18	16	7	-
7	4	4	10	15	37	79	93	141	141	171	200	234	172	179	173	155	139	82	21	14	18	1	6	-

AM Peak 1030 - 1130 (752), AM PHF=0.86

MetroCount Traffic Executive Event Counts

EventCount-411 -- English (ENU)

Datasets:

Site: [8021.06] SIEMPRE VIVA RD (SR-905 RAMPS-PASEO DE LA AMERICAS) EASTBOUND
Input A: 4 - West bound. - Excluded from totals. (0)
Input B: 3 - East bound. - Added to totals. (1)
Survey Duration: 20:28 Monday, March 03, 2008 => 19:14 Wednesday, March 05, 2008
File: C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.06.05Mar2008.EC0 (Regular)
Identifier: R5098KCT MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Tuesday, March 04, 2008 => 0:00 Wednesday, March 05, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 26654 / 47294 (56.36%)

*** Tuesday, March 04, 2008=12898, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
75	25	22	46	82	281	562	836	1016	1060	1022	968	1068	918	967	822	875	694	513	453	225	189	110	69	-
45	5	7	10	25	36	119	161	242	245	291	222	258	230	245	199	228	185	143	106	75	59	44	19	-
22	5	3	12	14	66	103	232	271	298	253	239	295	230	255	203	231	182	142	143	63	56	26	12	-
6	7	5	15	25	70	149	208	239	256	241	233	273	240	263	206	209	175	101	93	51	40	17	10	-
2	8	7	9	18	109	191	235	264	261	237	274	242	218	204	214	207	152	127	111	36	34	23	28	-

AM Peak 0915 - 1015 (1106), AM PHF=0.93

MetroCount Traffic Executive Event Counts

EventCount-410 -- English (ENU)

Datasets:

Site: [8021.06] SIEMPRE VIVA RD (SR-905 RAMPS-PASEO DE LA AMERICAS) WESTBOUND
Input A: 4 - West bound. - Added to totals. (1)
Input B: 3 - East bound. - Excluded from totals. (0)
Survey Duration: 20:28 Monday, March 03, 2008 => 19:14 Wednesday, March 05, 2008
File: C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.06.05Mar2008.EC0 (Regular)
Identifier: R5098KCT MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Tuesday, March 04, 2008 => 0:00 Wednesday, March 05, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 26654 / 47294 (56.36%)

*** Tuesday, March 04, 2008=13755, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
58	24	20	48	72	148	397	558	726	851	1090	1139	1219	1109	1127	1169	1153	1125	749	454	226	145	87	61	-
31	4	5	8	21	15	76	128	166	177	284	284	287	310	245	317	296	337	228	138	81	49	35	25	-
17	7	6	13	19	47	100	107	175	260	234	281	260	251	287	268	270	283	173	118	57	36	22	14	-
6	7	4	7	21	37	108	139	195	213	276	298	259	275	302	291	290	263	172	94	48	34	15	4	-
4	6	5	20	11	49	113	184	190	201	296	276	413	273	293	293	297	242	176	104	40	26	15	18	-

AM Peak 1045 - 1145 (1159), AM PHF=0.97

MetroCount Traffic Executive Event Counts

EventCount-414 -- English (ENU)

Datasets:

Site: [8021.07] SIEMPRE VIVA RD (P. DE LAS AMERICAS-MICHAEL FARADAY DR) EASTBOUND
Input A: 4 - West bound. - Excluded from totals. (0)
Input B: 2 - East bound. - Added to totals. (1)
Survey Duration: 21:05 Monday, March 03, 2008 => 19:10 Wednesday, March 05, 2008
File: C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.07.05Mar2008.EC0 (Regular)
Identifier: R8319BB9 MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Tuesday, March 04, 2008 => 0:00 Wednesday, March 05, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 9887 / 19181 (51.55%)

* Tuesday, March 04, 2008=2830, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	4	5	15	15	63	125	212	328	388	312	255	249	190	202	150	129	86	42	24	7	14	6	9	
0	2	0	2	2	4	22	39	59	92	92	63	55	34	58	49	35	29	16	7	1	5	4	1	-
0	0	2	4	2	20	26	59	90	98	70	57	68	60	53	26	36	21	11	2	0	6	0	2	-
0	0	1	3	7	14	27	53	85	89	77	60	67	52	43	42	28	22	7	7	5	2	0	2	-
0	2	2	6	4	25	50	61	94	109	73	75	59	44	48	33	30	14	8	8	1	1	2	4	-

AM Peak 0900 - 1000 (388), AM PHF=0.89

MetroCount Traffic Executive Event Counts

EventCount-413 -- English (ENU)

Datasets:

Site: [8021.07] SIEMPRE VIVA RD (P. DE LAS AMERICAS-MICHAEL FARADAY DR) WESTBOUND
Input A: 4 - West bound. - Added to totals. (1)
Input B: 2 - East bound. - Excluded from totals. (0)
Survey Duration: 21:05 Monday, March 03, 2008 => 19:10 Wednesday, March 05, 2008
File: C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.07.05Mar2008.EC0 (Regular)
Identifier: R8319BB9 MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Tuesday, March 04, 2008 => 0:00 Wednesday, March 05, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 9887 / 19181 (51.55%)

* Tuesday, March 04, 2008=7056, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
16	11	7	13	35	26	142	264	413	547	643	742	871	547	536	610	509	523	377	158	33	18	7	8	-
7	1	0	1	12	1	20	67	76	126	180	207	181	147	95	168	107	135	107	54	8	1	1	3	-
7	7	2	3	0	13	30	36	117	159	108	191	145	126	93	135	139	116	83	43	2	2	6	2	-
1	2	5	0	23	3	38	65	118	132	160	195	121	134	200	153	133	149	88	42	7	11	0	2	-
1	1	0	9	0	9	54	96	102	130	195	149	424	140	148	154	130	123	99	19	16	4	0	1	-

AM Peak 1045 - 1145 (788), AM PHF=0.95

MetroCount Traffic Executive Event Counts

EventCount-397 -- English (ENU)

Datasets:

Site: [8021.08] SIEMPRE VIVA RD (MICHAEL FARADAY DR-ENRICO FERMI DR) EASTBOUND
Input A: 4 - West bound. - Excluded from totals. (0)
Input B: 2 - East bound. - Added to totals. (1)
Survey Duration: 21:35 Monday, March 03, 2008 => 19:09 Wednesday, March 05, 2008
File: C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.08.05Mar2008.EC0 (Demo L)
Identifier: V231TDVM MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Tuesday, March 04, 2008 => 0:00 Wednesday, March 05, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 6443 / 12962 (49.71%)

* Tuesday, March 04, 2008=1759, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	2	2	13	6	43	92	155	218	292	219	164	136	101	96	58	58	41	14	19	6	11	4	9	
0	1	0	2	2	2	19	21	31	73	65	43	25	20	30	16	17	14	4	7	1	2	2	1	-
0	0	1	3	1	17	21	48	73	70	48	31	33	31	26	14	13	8	3	3	0	4	0	2	-
0	0	1	4	2	6	22	47	51	75	57	44	49	29	18	16	14	11	2	3	5	1	0	1	-
0	1	0	4	1	18	30	39	63	74	49	46	29	21	22	12	14	8	5	6	0	4	2	5	-

AM Peak 0900 - 1000 (292), AM PHF=0.97

MetroCount Traffic Executive Event Counts

EventCount-396 -- English (ENU)

Datasets:

Site: [8021.08] SIEMPRE VIVA RD (MICHAEL FARADAY DR-ENRICO FERMI DR) WESTBOUND
Input A: 4 - West bound. - Added to totals. (1)
Input B: 2 - East bound. - Excluded from totals. (0)
Survey Duration: 21:35 Monday, March 03, 2008 => 19:09 Wednesday, March 05, 2008
File: C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.08.05Mar2008.EC0 (Demo L)
Identifier: V231TDVM MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Tuesday, March 04, 2008 => 0:00 Wednesday, March 05, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 6443 / 12962 (49.71%)

* Tuesday, March 04, 2008=4683, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
2	5	3	9	5	7	115	202	340	365	450	487	565	317	338	393	335	336	280	92	18	9	6	4	
0	1	0	0	1	1	18	40	61	67	119	136	116	83	61	123	70	100	58	42	4	2	0	1	-
0	0	1	5	0	3	28	25	93	123	64	142	90	62	68	90	88	72	60	23	2	1	6	0	-
1	3	2	0	4	3	29	50	91	102	119	107	75	98	110	109	84	85	74	17	6	3	0	2	-
1	1	0	4	0	0	40	87	95	73	148	102	284	74	99	71	93	79	88	10	6	3	0	1	-

AM Peak 1030 - 1130 (545), AM PHF=0.92

MetroCount Traffic Executive Event Counts

EventCount-402 -- English (ENU)

Datasets:

Site: [8021.02] LA MEDIA RD (OTAY MESA RD-AIRWAY RD) NORTHBOUND
Input A: 1 - North bound. - Added to totals. (1)
Input B: 0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration: 18:34 Monday, March 03, 2008 => 17:40 Wednesday, March 05, 2008
File: C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.02.N05Mar2008.EC0 (Regular)
Identifier: S1079HQB MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Tuesday, March 04, 2008 => 0:00 Wednesday, March 05, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 6320 / 13182 (47.94%)

*** Tuesday, March 04, 2008=6319, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
54	37	55	107	137	120	177	220	348	402	359	554	500	453	480	421	443	441	346	269	149	107	70	70	-
18	11	13	36	47	37	40	58	65	77	113	115	129	91	111	122	106	137	90	68	45	25	22	20	-
13	10	19	25	33	23	39	41	78	102	92	116	116	120	95	94	109	120	87	81	32	23	15	13	-
17	8	6	17	33	23	59	56	114	147	73	176	136	108	160	109	113	111	80	44	21	37	12	28	-
6	8	17	29	24	37	39	65	91	76	81	147	119	134	114	96	115	73	89	76	51	22	21	9	-

AM Peak 1115 - 1215 (568), AM PHF=0.81

MetroCount Traffic Executive Event Counts

EventCount-403 -- English (ENU)

Datasets:

Site: [8021.02] LA MEDIA RD (OTAY MESA RD-AIRWAY RD) SOUTHBOUND
Input A: 3 - South bound. - Added to totals. (1)
Input B: 0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration: 18:35 Monday, March 03, 2008 => 17:38 Wednesday, March 05, 2008
File: C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.02.S05Mar2008.EC0 (Regular)
Identifier: S014F2C9 MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Tuesday, March 04, 2008 => 0:00 Wednesday, March 05, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 8906 / 17239 (51.66%)

*** Tuesday, March 04, 2008=8906, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
86	56	210	65	81	242	294	659	594	530	587	679	738	622	651	637	583	484	414	243	137	101	151	62	-
25	13	37	16	14	11	61	142	180	142	164	138	154	141	166	147	137	141	131	74	42	26	35	13	-
28	12	37	12	24	49	52	135	142	153	150	187	201	165	179	165	163	104	90	73	34	17	39	23	-
16	15	70	14	21	84	93	163	150	105	113	152	188	170	137	158	125	129	112	46	29	27	47	4	-
17	16	66	23	22	98	88	219	122	130	160	202	195	146	169	167	158	110	81	50	32	31	30	22	-

AM Peak 1145 - 1245 (745), AM PHF=0.92

MetroCount Traffic Executive Event Counts

EventCount-404 -- English (ENU)

Datasets:

Site: [8021.03] LA MEDIA RD (AIRWAY RD-SIEMPRE VIVA RD) NORTHBOUND
Input A: 1 - North bound. - Added to totals. (1)
Input B: 0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration: 19:07 Monday, March 03, 2008 => 23:26 Wednesday, March 05, 2008
File: C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.03.N05Mar2008.EC0 (Regular)
Identifier: S1339PHE MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Tuesday, March 04, 2008 => 0:00 Wednesday, March 05, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 7544 / 13787 (54.72%)

*** Tuesday, March 04, 2008=7544, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
39	21	18	62	90	92	167	185	401	432	343	664	745	764	731	720	498	690	332	219	114	94	73	50	-
15	3	6	17	25	16	47	47	104	65	110	101	200	111	198	130	122	210	95	52	39	18	23	22	-
10	5	9	15	26	29	34	43	112	132	76	158	159	228	193	196	161	220	80	59	26	23	12	10	-
10	8	0	18	20	11	38	44	108	125	58	206	210	183	176	223	98	162	74	38	20	36	16	11	-
4	5	3	12	19	36	48	51	77	110	99	199	176	242	164	171	117	98	83	70	29	17	22	7	-

AM Peak 1145 - 1245 (768), AM PHF=0.91

MetroCount Traffic Executive Event Counts

EventCount-405 -- English (ENU)

Datasets:

Site: [8021.03] LA MEDIA RD (AIRWAY RD-SIEMPRE VIVA RD) SOUTHBOUND
Input A: 3 - South bound. - Added to totals. (1)
Input B: 0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration: 19:10 Monday, March 03, 2008 => 17:41 Wednesday, March 05, 2008
File: C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.03.S05Mar2008.EC0 (Base)
Identifier: V286M0GP MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Tuesday, March 04, 2008 => 0:00 Wednesday, March 05, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 6425 / 12086 (53.16%)

*** Tuesday, March 04, 2008=6424, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
30	11	17	22	22	136	156	423	448	397	455	485	549	507	533	506	523	462	360	159	69	48	76	30	
8	4	2	4	6	7	25	80	124	98	107	93	133	127	138	127	111	136	92	48	28	11	18	6	-
9	0	3	4	8	30	34	92	88	107	126	124	138	125	138	107	151	116	85	44	17	10	20	9	--
4	3	5	6	2	48	44	111	117	93	97	132	155	151	117	120	122	116	116	31	22	14	20	2	-
9	4	7	8	6	51	53	140	119	99	125	136	123	104	140	152	139	94	67	36	2	13	18	13	-

AM Peak 1145 - 1245 (562), AM PHF=0.91

MetroCount Traffic Executive Event Counts

EventCount-370 -- English (ENU)

Datasets:

Site: [8017.07] HWY-905 (SIEMPRE VIVA RD-AIRWAY RD) NORTHBOUND
Input A: 1 - North bound. - Added to totals. (1)
Input B: 3 - South bound. - Excluded from totals. (0)
Survey Duration: 19:40 Monday, February 25, 2008 => 21:20 Wednesday, February 27, 2008
File: C:\Users\Gus\True Count\Projects\8017 DA OTAY\8017.07.27Feb2008.EC0 (Base)
Identifier: V289W1MS MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Tuesday, February 26, 2008 => 0:00 Wednesday, February 27, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 37824 / 76336 (49.55%)

* Tuesday, February 26, 2008=20706, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
172	136	131	317	656	774	1089	960	1188	1141	1133	1244	1283	1305	1336	1388	1333	1365	1209	921	598	409	406	212	
52	32	33	34	144	167	234	241	268	252	302	288	306	293	308	299	355	430	303	242	180	99	118	50	-
46	27	28	54	172	192	284	209	309	288	339	262	341	339	402	363	296	353	328	262	159	91	116	44	-
36	39	35	101	174	196	296	256	287	268	218	364	278	341	320	362	367	300	332	205	147	117	109	67	-
38	38	35	128	166	219	275	254	324	333	274	330	358	332	306	364	315	282	246	212	112	102	63	51	-

AM Peak 1130 - 1230 (1341), AM PHF=0.92

MetroCount Traffic Executive Event Counts

EventCount-371 -- English (ENU)

Datasets:

Site: [8017.07] HWY-905 (SIEMPRE VIVA RD-AIRWAY RD) SOUTHBOUND
Input A: 1 - North bound. - Excluded from totals. (0)
Input B: 3 - South bound. - Added to totals. (1)
Survey Duration: 19:40 Monday, February 25, 2008 => 21:20 Wednesday, February 27, 2008
File: C:\Users\Gus\True Count\Projects\8017 DA OTAY\8017.07.27Feb2008.EC0 (Base)
Identifier: V289W1MS MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Tuesday, February 26, 2008 => 0:00 Wednesday, February 27, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 37824 / 76336 (49.55%)

* Tuesday, February 26, 2008=17117, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
127	76	61	79	100	207	486	1000	1008	945	841	915	983	941	1031	1298	1515	1596	1297	850	622	529	354	256	-
45	22	10	17	24	17	76	204	290	246	222	203	281	282	262	253	354	388	358	249	166	141	112	67	-
30	18	23	22	26	37	95	226	250	238	212	231	234	234	239	332	404	425	307	223	155	151	84	79	-
32	16	18	16	30	60	118	261	224	229	191	239	240	217	234	344	376	431	338	213	158	122	81	66	-
20	20	10	24	20	93	197	309	244	232	216	242	228	208	296	369	381	352	294	165	143	115	77	44	-

AM Peak 0730 - 0830 (1110), AM PHF=0.90

MetroCount Traffic Executive Event Counts

EventCount-428 -- English (ENU)

Datasets:

Site: [8021.15] SANYO AVE (AIRWAY RD-OTAY MESA RD) NORTHBOUND
Input A: 3 - South bound. - Excluded from totals. (0)
Input B: 1 - North bound. - Added to totals. (1)
Survey Duration: 22:01 Wednesday, March 05, 2008 => 12:13 Friday, March 07, 2008
File: C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.15.07Mar2008.EC0 (Base)
Identifier: V286M0GP MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Split (Count)

Profile:

Filter time: 0:00 Thursday, March 06, 2008 => 0:00 Friday, March 07, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 3935 / 5174 (76.05%)

*** Thursday, March 06, 2008=1270, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
6	1	1	5	3	18	23	44	43	50	87	96	95	86	122	107	154	186	63	35	17	18	8	2
1	0	0	0	0	0	4	8	16	12	20	30	23	29	41	24	32	62	32	7	3	5	1	0
0	0	1	0	1	2	1	12	9	10	15	25	30	12	25	25	34	60	13	14	2	7	3	0
5	0	0	0	1	6	5	12	9	13	19	23	19	24	31	23	51	31	13	12	8	5	4	2
0	1	0	5	1	10	13	12	9	15	33	18	23	21	25	35	37	33	5	2	4	1	0	0

AM Peak 1045 - 1145 (111), AM PHF=0.84

MetroCount Traffic Executive Event Counts

EventCount-425 -- English (ENU)

Datasets:

Site: [8021.15] SANYO AVE (AIRWAY RD-OTAY MESA RD) SOUTHBOUND
Input A: 1 - South bound. - Added to totals. (1)
Input B: 3 - North bound. - Subtracted from totals. (-1)
Survey Duration: 22:01 Wednesday, March 05, 2008 => 12:13 Friday, March 07, 2008
File: C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.15.07Mar2008.EC0 (Base)
Identifier: V286M0GP MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Split (Count)

Profile:

Filter time: 0:00 Thursday, March 06, 2008 => 0:00 Friday, March 07, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 3935 / 5174 (76.05%)

*** Thursday, March 06, 2008=1396, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
2	0	0	2	1	7	36	173	185	138	111	110	109	115	104	119	61	45	20	19	10	13	10	6	-
0	0	0	0	0	1	5	29	52	46	27	24	29	27	28	40	24	13	7	11	0	4	3	1	-
0	0	0	0	0	3	3	48	42	37	29	26	26	33	26	31	10	8	3	1	6	5	1	0	-
1	0	0	1	1	1	7	33	41	28	29	30	19	18	21	30	14	17	6	4	2	2	4	5	-
1	0	0	1	0	2	21	63	50	27	26	30	35	37	29	18	13	7	4	3	2	2	2	0	-

AM Peak 0745 - 0845 (198), AM PHF=0.79

MetroCount Traffic Executive Event Counts

EventCount-417 -- English (ENU)

Datasets:

Site: [8021.11] ENRICO FERMI DR (AIRWAY RD-OTAY MESA RD) NORTHBOUND
Input A: 1 - North bound. - Added to totals. (1)
Input B: 0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration: 20:08 Wednesday, March 05, 2008 => 12:07 Friday, March 07, 2008
File: C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.11.N07Mar2008.EC0 (Regular)
Identifier: R513P5FW MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Thursday, March 06, 2008 => 0:00 Friday, March 07, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 2180 / 2964 (73.55%)

* Thursday, March 06, 2008=2179, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
4	4	0	0	3	14	207	231	189	144	140	165	168	161	189	126	130	140	60	69	16	14	3	2	
1	0	0	0	1	0	17	66	21	32	46	33	27	38	45	29	21	56	24	24	4	6	0	1	-
1	2	0	0	0	6	27	66	68	41	24	48	48	39	46	18	42	34	13	20	4	2	1	1	-
1	0	0	0	1	3	75	50	54	35	20	41	41	50	45	42	33	22	11	19	7	2	2	0	-
1	2	0	0	1	5	88	49	46	36	50	43	52	34	53	37	34	28	12	6	1	4	0	0	-

AM Peak 0630 - 0730 (295), AM PHF=0.84

AM Peak 0630 - 0730 (295), AM PHF=0.84

MetroCount Traffic Executive Event Counts

EventCount-418 -- English (ENU)

Datasets:

Site: [8021.11] ENRICO FERMI DR (AIRWAY RD-OTAY MESA RD) SOUTHBOUND
Input A: 3 - South bound. - Added to totals. (1)
Input B: 0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration: 20:11 Wednesday, March 05, 2008 => 12:06 Friday, March 07, 2008
File: C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.11.S07Mar2008.EC0 (Base)
Identifier: V280CRV3 MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Thursday, March 06, 2008 => 0:00 Friday, March 07, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 503 / 721 (69.76%)

*** Thursday, March 06, 2008=502, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
7	3	3	0	4	16	19	31	75	47	29	19	23	21	21	59	45	31	9	12	12	5	10	1	-
2	1	0	0	1	6	2	6	20	13	6	8	5	4	3	8	15	11	5	1	2	0	1	0	-
1	2	1	0	0	3	4	1	26	15	11	1	6	7	5	15	6	9	2	4	5	1	7	0	-
2	0	2	0	1	0	6	7	16	9	9	4	4	10	9	13	15	8	2	6	3	2	1	1	-
2	0	0	0	2	7	7	17	13	10	3	6	8	0	4	23	9	3	0	1	2	2	1	0	-

AM Peak 0745 - 0845 (79), AM PHF=0.76

MetroCount Traffic Executive Event Counts

EventCount-415 -- English (ENU)

Datasets:

Site: [8021.10] ENRICO FERMI DR (SIEMPRE VIVA RD-AIRWAY RD) NORTHBOUND
Input A: 1 - North bound. - Added to totals. (1)
Input B: 0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration: 19:28 Wednesday, March 05, 2008 => 12:06 Friday, March 07, 2008
File: C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.10.N07Mar2008.EC0 (Regular)
Identifier: R5098KCT MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Thursday, March 06, 2008 => 0:00 Friday, March 07, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 5955 / 8192 (72.69%)

* Thursday, March 06, 2008=5955, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
31	27	16	25	51	98	438	625	502	646	446	413	418	313	339	288	299	280	186	186	108	97	57	66	-
10	6	9	6	5	25	48	136	81	240	99	101	77	88	87	77	54	95	63	64	25	17	16	18	-
6	7	3	11	12	25	79	138	180	119	191	128	101	83	81	55	80	66	57	47	44	34	12	22	-
9	4	1	3	14	25	141	149	126	102	120	91	92	89	87	79	73	71	37	43	21	20	12	14	-
6	10	3	5	20	23	170	202	115	185	36	93	148	53	84	77	92	48	29	32	18	26	17	12	-

AM Peak 0815 - 0915 (661), AM PHF=0.69

MetroCount Traffic Executive Event Counts

EventCount-416 -- English (ENU)

Datasets:

Site: [8021.10] ENRICO FERMI DR (SIEMPRE VIVA RD-AIRWAY RD) SOUTHBOUND
Input A: 3 - South bound. - Added to totals. (1)
Input B: 0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration: 19:31 Wednesday, March 05, 2008 => 12:04 Friday, March 07, 2008
File: C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.10.S07Mar2008.EC0 (Regular)
Identifier: R8319BB9 MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Thursday, March 06, 2008 => 0:00 Friday, March 07, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 1156 / 1963 (58.89%)

* Thursday, March 06, 2008=1155, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
7	4	2	4	3	33	40	113	138	136	82	87	57	70	65	91	63	64	16	16	17	7	17	23	-
0	2	0	0	0	6	8	24	50	35	33	38	14	23	10	20	19	30	4	5	2	0	4	5	-
3	1	1	2	0	4	8	20	32	35	15	15	16	21	23	24	12	16	9	2	2	1	8	1	-
3	1	1	1	0	7	7	23	32	35	26	19	7	19	19	24	16	13	1	8	10	4	3	12	-
1	0	0	1	3	16	17	46	24	31	8	15	20	7	13	23	16	5	2	1	3	2	2	5	-

AM Peak 0745 - 0845 (160), AM PHF=0.80

MetroCount Traffic Executive Event Counts

EventCount-398 -- English (ENU)

Datasets:

Site: [8021.09] ENRICO FERMI DR (SOUTH OF SIEMPRE VIVA RD) NORTHBOUND
Input A: 1 - North bound. - Added to totals. (1)
Input B: 0 - South bound. - Excluded from totals. (0)
Survey Duration: 22:18 Monday, March 03, 2008 => 19:08 Wednesday, March 05, 2008
File: C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.09.N05Mar2008.EC0 (Demo L)
Identifier: V239JE7M MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Tuesday, March 04, 2008 => 0:00 Wednesday, March 05, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 9523 / 19344 (49.23%)

* Tuesday, March 04, 2008=9522, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
7	5	5	3	1	14	355	513	737	708	758	868	632	749	768	936	778	711	693	237	27	6	9	2	
0	1	0	0	0	0	52	128	146	166	135	242	134	197	134	276	162	205	104	75	6	1	1	1	-
2	1	2	3	0	9	49	49	192	213	165	236	113	176	209	234	216	178	161	91	2	2	7	0	-
2	3	3	0	0	1	75	127	221	157	225	218	144	245	217	241	228	171	196	48	13	1	0	1	-
3	0	0	0	1	4	179	209	178	172	233	172	241	131	208	185	172	157	232	23	6	2	1	0	-

AM Peak 1030 - 1130 (936), AM PHF=0.97

MetroCount Traffic Executive Event Counts

EventCount-399 -- English (ENU)

Datasets:

Site: [8021.09] ENRICO FERMI DR (SOUTH OF SIEMPRE VIVA RD) SOUTHBOUND
Input A: 3 - South bound. - Added to totals. (1)
Input B: 0 - North bound. - Excluded from totals. (0)
Survey Duration: 22:22 Monday, March 03, 2008 => 19:07 Wednesday, March 05, 2008
File: C:\Users\Gus\True Count\Projects\8021 DA OTAY\8021.09.S05Mar2008.EC0 (Demo L)
Identifier: W139N0DA MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Tuesday, March 04, 2008 => 0:00 Wednesday, March 05, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 1224 / 2382 (51.39%)

*** Tuesday, March 04, 2008=1224, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
7	4	3	4	2	12	34	69	94	152	111	76	62	99	112	117	91	60	44	47	6	5	7	6	-
0	1	0	0	1	0	6	10	20	37	26	43	1	25	29	24	27	25	9	7	1	0	4	2	-
0	2	2	2	1	8	11	11	22	33	25	33	6	37	20	34	18	14	14	12	1	1	1	2	-
5	0	1	2	0	0	7	23	28	36	30	0	29	24	33	28	19	6	12	16	3	1	2	0	-
2	1	0	0	0	4	10	25	24	46	30	0	26	13	30	31	27	15	9	12	1	3	0	2	-

AM Peak 0900 - 1000 (152), AM PHF=0.83

MetroCount Traffic Executive Event Counts

EventCount-238 -- English (ENU)

Datasets:

Site: [8002.05] ALTA RD (CALZADA DE LA FUENTE-OTAY MESA RD) NORTHBOUND
Input A: 1 - North bound. - Added to totals. (1)
Input B: 0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration: 19:22 Tuesday, January 22, 2008 => 11:48 Thursday, January 24, 2008
File: C:\Users\Gus\True Count\Projects\8005 DA OTAY HILLS\8002.05.N24Jan2008.EC0 (Regular)
Identifier: R5098KCT MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Wednesday, January 23, 2008 => 0:00 Thursday, January 24, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 3389 / 5703 (59.42%)

* Wednesday, January 23, 2008=3389, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
10	12	12	28	36	443	654	531	267	119	101	124	121	236	154	77	64	85	44	41	39	107	69	15	-
0	7	4	1	9	19	204	138	105	29	30	26	32	35	44	25	19	22	7	19	13	8	22	7	-
3	0	2	7	6	61	154	117	78	32	20	19	40	51	34	19	15	18	14	9	8	13	13	4	-
3	3	2	3	12	135	120	119	49	25	15	40	32	87	28	14	12	26	9	7	9	37	14	2	-
4	2	4	17	9	228	176	157	35	33	36	39	17	63	48	19	18	19	14	6	9	49	20	2	-

AM Peak 0530 - 0630 (721), AM PHF=0.79

MetroCount Traffic Executive Event Counts

EventCount-239 -- English (ENU)

Datasets:

Site: [8002.05] ALTA RD (CALZADA DE LA FUENTE-OTAY MESA RD) SOUTHBOUND
Input A: 3 - South bound. - Added to totals. (1)
Input B: 0 - Unused or unknown. - Excluded from totals. (0)
Survey Duration: 19:19 Tuesday, January 22, 2008 => 11:50 Thursday, January 24, 2008
File: C:\Users\Gus\True Count\Projects\8005 DA OTAY HILLS\8002.05.S24Jan2008.EC0 (Base)
Identifier: V273S0NX MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Event Count
Data type: Axle sensors - Separate (Count)

Profile:

Filter time: 0:00 Wednesday, January 23, 2008 => 0:00 Thursday, January 24, 2008
Name: TC Default Profile
Scheme: Count events divided by two.
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Events = 3399 / 4392 (77.39%)

* Wednesday, January 23, 2008=3398, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
23	8	10	18	11	13	173	117	90	61	122	150	134	118	386	631	498	206	109	68	66	90	239	57	-
5	2	3	7	0	2	21	13	18	17	31	34	35	24	88	274	131	103	12	21	15	36	106	15	-
0	2	4	3	5	2	59	21	17	5	33	32	40	30	110	90	125	46	39	17	19	14	84	7	-
14	3	0	4	1	1	60	33	27	19	29	51	32	29	121	143	131	32	24	16	20	19	33	18	-
4	1	3	4	5	8	33	50	28	20	29	33	27	35	67	124	111	25	34	14	12	21	16	17	-

AM Peak 0600 - 0700 (173), AM PHF=0.72

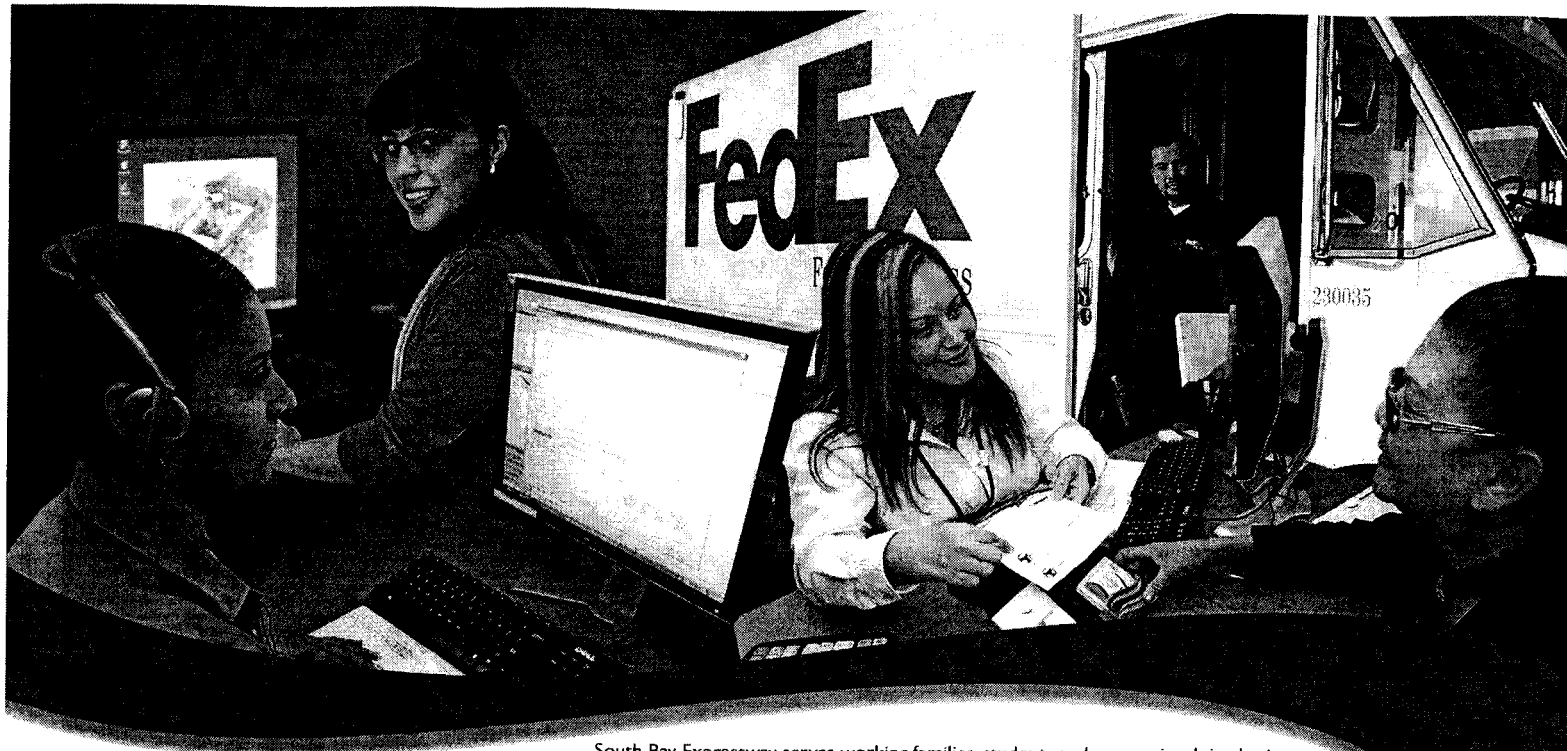
Volumes for: Wednesday, February 08, 2006

City: Otay Mesa

Project #: 06-4038-001

Location: Alta Road bet. Otay Mesa Rd. and Dononvan State Prison Rd.

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00	4	6			12:00	20	34		
00:15	3	4			12:15	31	20		
00:30	2	6			12:30	39	28		
00:45	2	11	6	22	12:45	25	115	25	107
01:00	1	1			13:00	35	22		
01:15	2	1			13:15	27	22		
01:30	2	1			13:30	63	56		
01:45	3	8	3	6	13:45	44	169	40	140
02:00	2	0			14:00	16	104		
02:15	1	1			14:15	20	114		
02:30	2	0			14:30	22	90		
02:45	1	6	1	2	14:45	23	81	75	383
03:00	1	1			15:00	10	60		
03:15	6	1			15:15	3	49		
03:30	10	3			15:30	3	119		
03:45	14	31	1	6	15:45	4	20	105	333
04:00	3	9			16:00	12	125		
04:15	9	4			16:15	9	62		
04:30	5	2			16:30	0	104		
04:45	5	22	4	19	16:45	6	27	70	361
05:00	14	1			17:00	8	68		
05:15	41	3			17:15	14	19		
05:30	129	1			17:30	21	23		
05:45	150	334	5	10	17:45	22	65	19	129
06:00	77	33			18:00	9	32		
06:15	74	27			18:15	7	15		
06:30	106	28			18:30	11	40		
06:45	137	394	15	103	18:45	12	39	19	106
07:00	92	14			19:00	9	12		
07:15	84	5			19:15	9	35		
07:30	93	19			19:30	8	15		
07:45	129	398	29	67	19:45	12	38	14	76
08:00	67	12			20:00	8	26		
08:15	60	6			20:15	8	14		
08:30	25	18			20:30	4	12		
08:45	25	177	8	44	20:45	4	24	14	66
09:00	23	14			21:00	7	13		
09:15	36	12			21:15	7	12		
09:30	22	12			21:30	34	17		
09:45	26	107	14	52	21:45	27	75	38	80
10:00	27	19			22:00	20	80		
10:15	17	28			22:15	14	42		
10:30	16	23			22:30	11	28		
10:45	24	84	11	81	22:45	18	63	11	161
11:00	21	21			23:00	10	7		
11:15	29	32			23:15	1	6		
11:30	42	26			23:30	5	30		
11:45	37	129	22	101	23:45	4	20	13	56
Total Vol.	1701	513			2214	736	1998		2734
					Daily Totals				
					NB	SB	EB	WB	Combined
					2437	2511			4948
Split %	AM				PM				
	76.8%	23.2%		44.7%	26.9%	73.1%			55.3%
Peak Hour	05:30	11:15		05:45	13:00	15:30			14:00
Volume	430	114		500	169	411			464
P.H.F.	0.72	0.84		0.81	0.75	0.82			0.87



South Bay Expressway serves working families, students and companies doing business in San Diego's fastest-growing South Bay and the greater San Diego region.

South Bay ExpresswaySM **Putting the Fun Back in Driving** **Connecting People to the Places They Want to Go**

South Bay Expressway opened to traffic November 19, 2007, immediately slashing motorists' driving times by as much as half. Hailed by *The San Diego Union Tribune* as San Diego's environmentally friendly highway, the project serves a diverse customer base:

- Commuter customers are largely bilingual working families with household incomes averaging less than \$75,000 per year.
- These time-sensitive families have a need to be at work on time and home to attend to family and household affairs.
- Commercial customers include local and international shippers who appreciate the speedy new connection South Bay Expressway provides to ports, the international border, regional highway system and local customers.

New Tool for Transportation and Economic Development

Drawing on a decade of lessons learned from public-private partnership projects, South Bay Expressway could serve as a new and improved model for such partnerships in the State of California – partnerships that, selectively used, can provide:

- New tools for funding critical transportation infrastructure.
- A catalyst for local economic development.
- Relief to strapped state and local budgets allowing public transportation dollars to be used on other important projects.

Results to Date

South Bay Expressway is living up to the expectations of local officials and motorists. Results so far include:

- Congestion relief on I-805, SR-905 and local streets.
- Savings of up to 30 minutes per trip on commutes.
- Improved access for merchants and businesses.
- Quicker, more convenient access to and from the Otay Mesa port of entry.
- Increased business activity in eastern Chula Vista.

Traffic Relief

Customers make approximately 30,000 trips every week day on South Bay Expressway – over 11 million trips to date; trips that would otherwise be clogging I-805, SR-905 and local arterials.

High Customer Satisfaction

South Bay Expressway recently conducted Customer Round Tables to see what our customers thought about South Bay Expressway. The feedback was very positive:

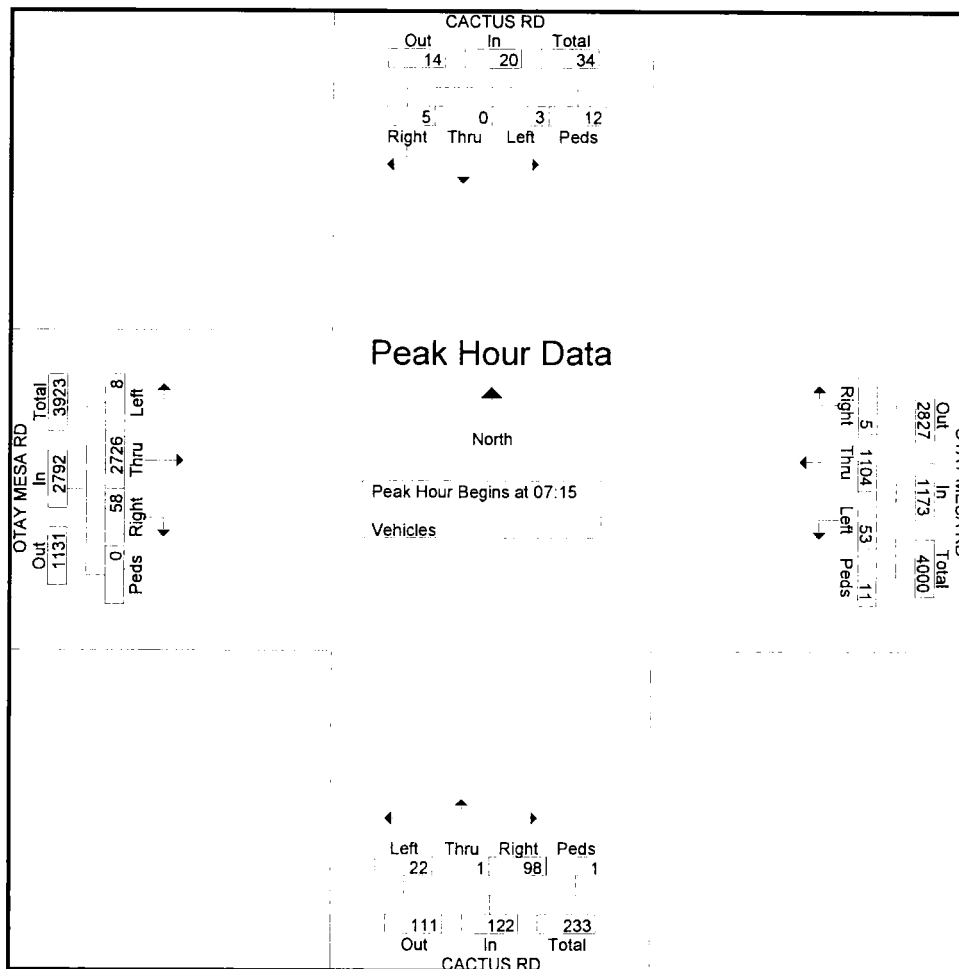
- "Thank you, South Bay Expressway, for giving me back some much needed personal time." - *Tamaryn B.*
- "I love the nonstop traffic. My commute to downtown is a cakewalk from Eastlake." - *Denise R.*
- "It's a blessing to be a little less stressed everyday." - *Francesco B.*
- "Thank you for making it easier to keep my family connected." - *Natasha R.*

AM/PM Peak Hour Traffic Counts

True Count
3401 First Ave #123
San Diego, CA 92103

File Name : 8017.02.CACTUS RD.OTAY MESA RD
Site Code : 00000000
Start Date : 2/27/2008
Page No : 2

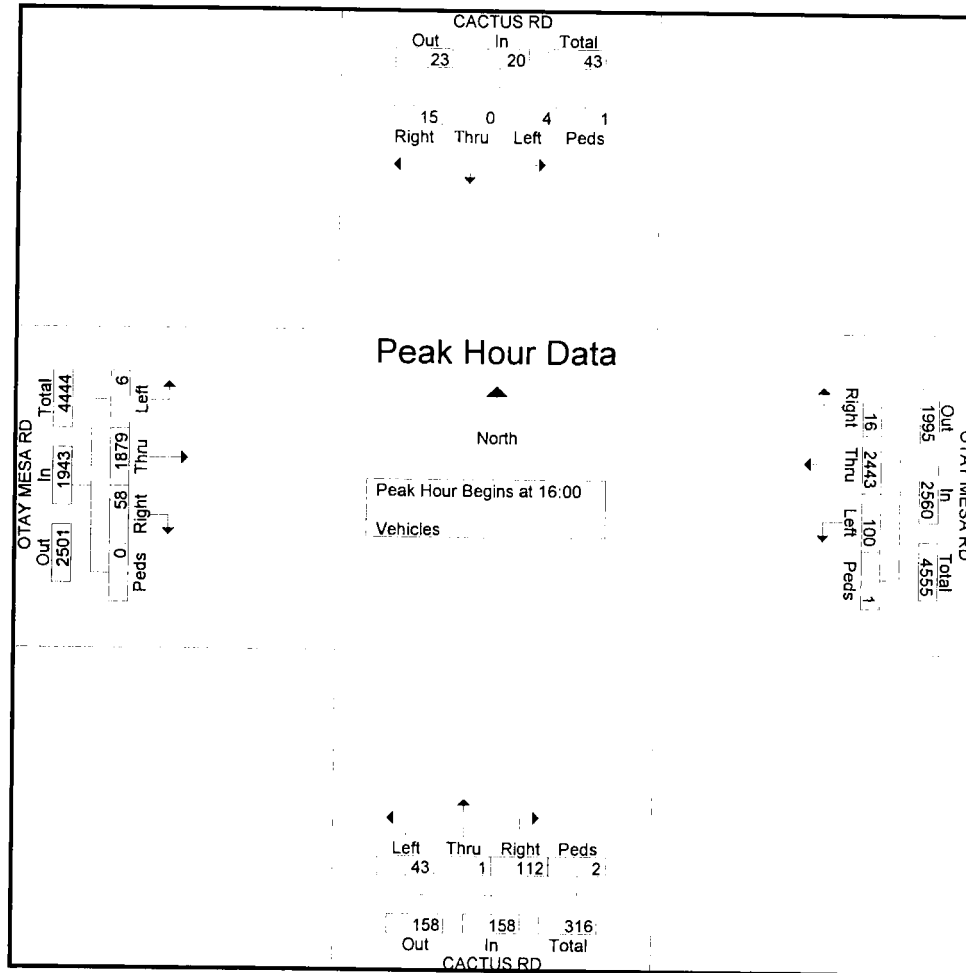
CACTUS RD Southbound						OTAY MESA RD Westbound					CACTUS RD Northbound					OTAY MESA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	0	0	1	0	1	13	244	1	0	258	3	1	17	0	21	3	626	13	0	642	922
07:30	0	0	1	9	10	7	293	2	9	311	12	0	24	1	37	1	712	14	0	727	1085
07:45	3	0	0	3	6	14	297	1	2	314	2	0	24	0	26	2	763	13	0	778	1124
08:00	0	0	3	0	3	19	270	1	0	290	5	0	33	0	38	2	625	18	0	645	976
Total Volume	3	0	5	12	20	53	1104	5	11	1173	22	1	98	1	122	8	2726	58	0	2792	4107
% App. Total	15	0	25	60		4.5	94.1	0.4	0.9		18	0.8	80.3	0.8		0.3	97.6	2.1	0		
PHF	.250	.000	.417	.333	.500	.697	.929	.625	.306	.934	.458	.250	.742	.250	.803	.667	.893	.806	.000	.897	.913



True Count
3401 First Ave #123
San Diego, CA 92103

File Name : 8017.02.CACTUS RD.OTAY MESA RD
Site Code : 00000000
Start Date : 2/27/2008
Page No : 3

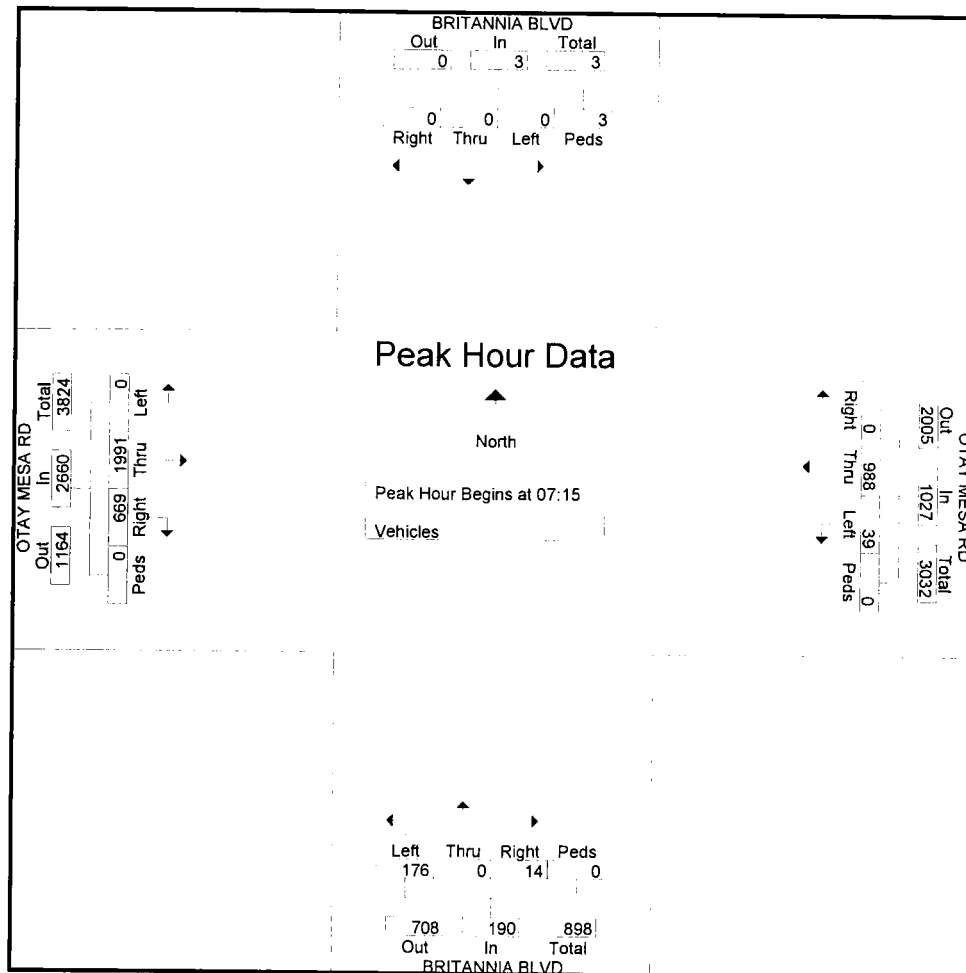
	CACTUS RD Southbound					OTAY MESA RD Westbound					CACTUS RD Northbound					OTAY MESA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	3	0	6	1	10	36	634	3	1	674	15	0	20	1	36	1	457	12	0	470	1190
16:15	0	0	3	0	3	27	564	6	0	597	9	0	36	1	46	2	450	13	0	465	1111
16:30	1	0	0	0	1	15	637	4	0	656	11	0	20	0	31	2	474	18	0	494	1182
16:45	0	0	6	0	6	22	608	3	0	633	8	1	36	0	45	1	498	15	0	514	1198
Total Volume	4	0	15	1	20	100	2443	16	1	2560	43	1	112	2	158	6	1879	58	0	1943	4681
% App. Total	20	0	75	5		3.9	95.4	0.6	0		27.2	0.6	70.9	1.3		0.3	96.7	3	0		
PHF	.333	.000	.625	.250	.500	.694	.959	.667	.250	.950	.717	.250	.778	.500	.859	.750	.943	.806	.000	.945	.977



True Count
 3401 First Ave #123
 San Diego, CA 92103

File Name : 8017.03.BRITANNIA BLVD.OTAY MESA RD
 Site Code : 00000000
 Start Date : 2/28/2008
 Page No : 2

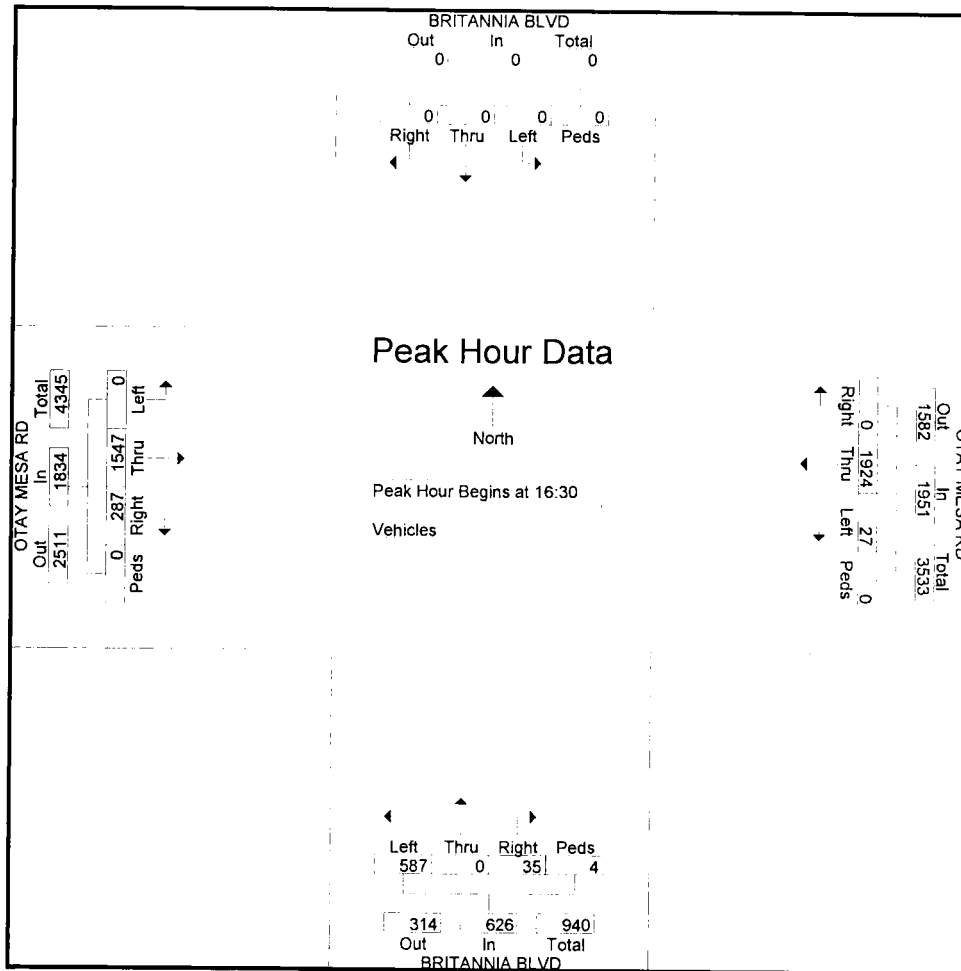
Start Time	BRITANNIA BLVD Southbound					OTAY MESA RD Westbound					BRITANNIA BLVD Northbound					OTAY MESA RD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	0	0	0	0	0	6	270	0	0	276	29	0	1	0	30	0	439	147	0	586	892
07:30	0	0	0	1	1	12	247	0	0	259	44	0	1	0	45	0	481	144	0	625	930
07:45	0	0	0	2	2	14	247	0	0	261	49	0	5	0	54	0	610	215	0	825	1142
08:00	0	0	0	0	0	7	224	0	0	231	54	0	7	0	61	0	461	163	0	624	916
Total Volume	0	0	0	3	3	39	988	0	0	1027	176	0	14	0	190	0	1991	669	0	2660	3880
% App. Total	0	0	0	100		3.8	96.2	0	0		92.6	0	7.4	0		0	74.8	25.2	0		
PHF	.000	.000	.000	.375	.375	.696	.915	.000	.000	.930	.815	.000	.500	.000	.779	.000	.816	.778	.000	.806	.849



True Count
 3401 First Ave #123
 San Diego, CA 92103

File Name : 8017.03.BRITANNIA BLVD.OTAY MESA RD
 Site Code : 00000000
 Start Date : 2/28/2008
 Page No : 3

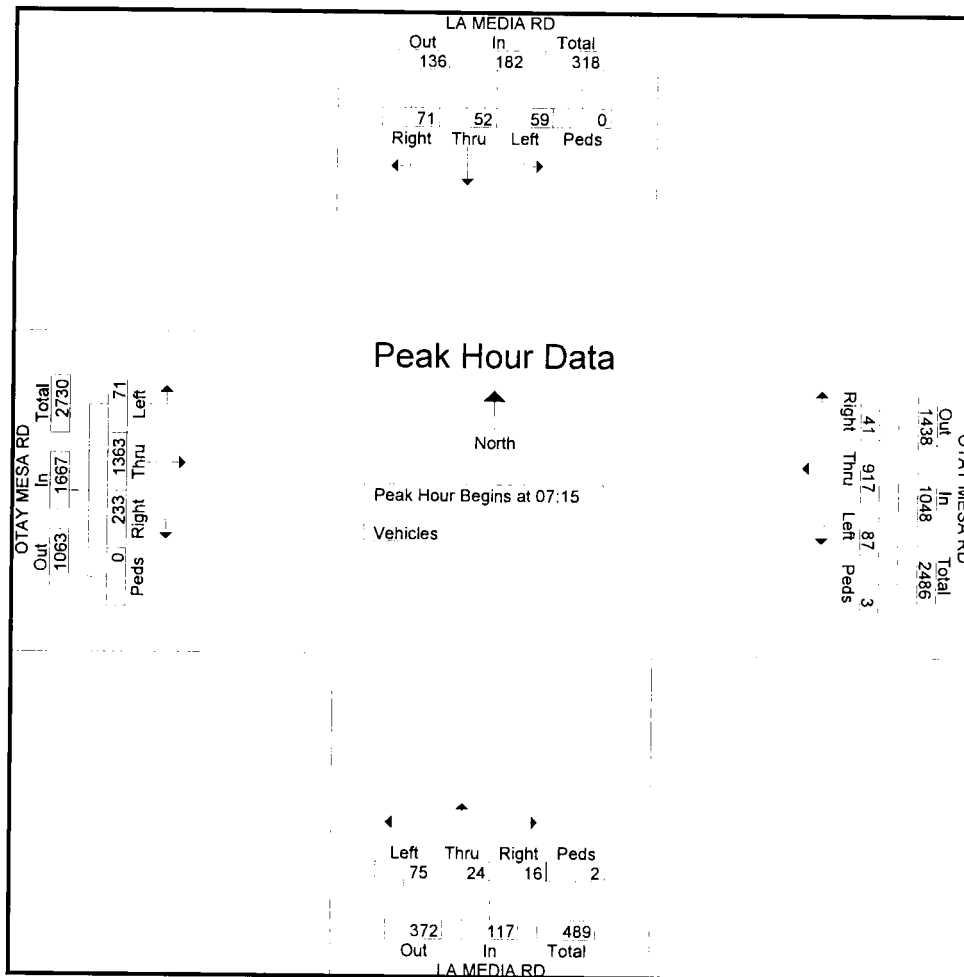
BRITANNIA BLVD Southbound						OTAY MESA RD Westbound					BRITANNIA BLVD Northbound					OTAY MESA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	0	0	0	0	0	10	509	0	0	519	146	0	17	1	164	0	380	63	0	443	1126
16:45	0	0	0	0	0	6	414	0	0	420	120	0	7	0	127	0	410	78	0	488	1035
17:00	0	0	0	0	0	9	537	0	0	546	187	0	7	3	197	0	367	72	0	439	1182
17:15	0	0	0	0	0	2	464	0	0	466	134	0	4	0	138	0	390	74	0	464	1068
Total Volume	0	0	0	0	0	27	1924	0	0	1951	587	0	35	4	626	0	1547	287	0	1834	4411
% App. Total	0	0	0	0	0	1.4	98.6	0	0	93.8	0	5.6	0.6			0	84.4	15.6	0		
PHF	.000	.000	.000	.000	.000	.675	.896	.000	.000	.893	.785	.000	.515	.333	.794	.000	.943	.920	.000	.940	.933



True Count
3401 First Ave #123
San Diego, CA 92103

File Name : 8017.04.LA MEDIA RD.OTAY MESA RD
Site Code : 00000000
Start Date : 2/27/2008
Page No : 2

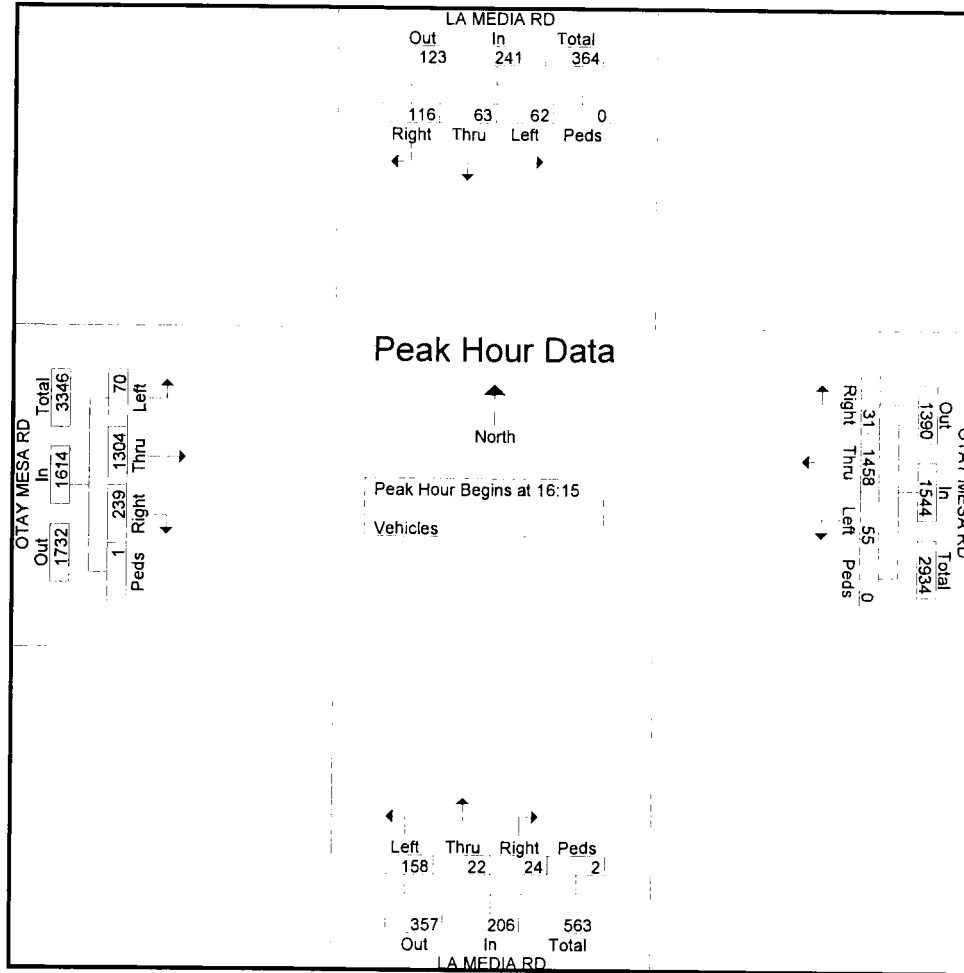
LA MEDIA RD Southbound						OTAY MESA RD Westbound					LA MEDIA RD Northbound					OTAY MESA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	18	12	23	0	53	29	243	14	2	288	19	6	2	2	29	17	298	49	0	364	734
07:30	16	16	21	0	53	16	228	9	1	254	16	7	1	0	24	18	363	55	0	436	767
07:45	11	14	14	0	39	25	245	12	0	282	24	6	5	0	35	15	357	62	0	434	790
08:00	14	10	13	0	37	17	201	6	0	224	16	5	8	0	29	21	345	67	0	433	723
Total Volume	59	52	71	0	182	87	917	41	3	1048	75	24	16	2	117	71	1363	233	0	1667	3014
% App. Total	32.4	28.6	39	0		8.3	87.5	3.9	0.3		64.1	20.5	13.7	1.7		4.3	81.8	14	0		
PHF	.819	.813	.772	.000	.858	.750	.936	.732	.375	.910	.781	.857	.500	.250	.836	.845	.939	.869	.000	.956	.954



True Count
3401 First Ave #123
San Diego, CA 92103

File Name : 8017.04.LA MEDIA RD.OTAY MESA RD
Site Code : 00000000
Start Date : 2/27/2008
Page No : 3

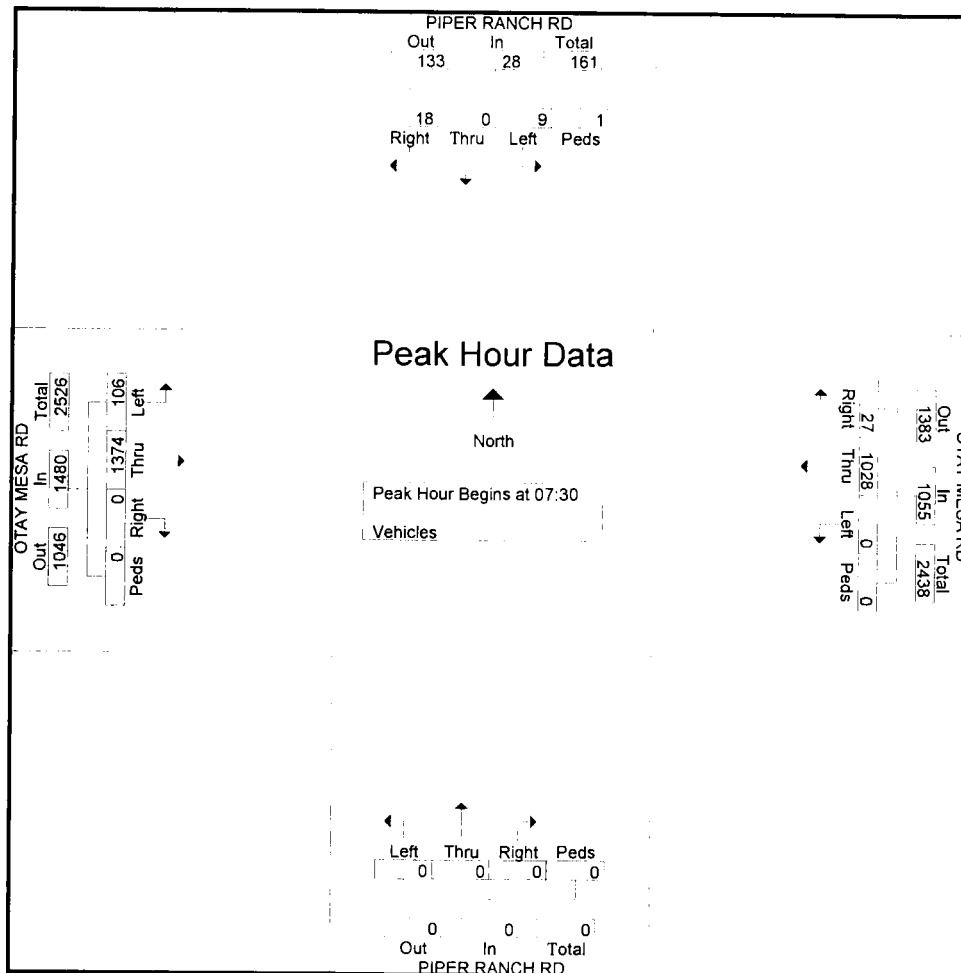
LA MEDIA RD Southbound						OTAY MESA RD Westbound					LA MEDIA RD Northbound					OTAY MESA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	18	15	27	0	60	12	378	5	0	395	43	7	9	0	59	23	314	55	1	393	907
16:30	11	10	31	0	52	10	365	10	0	385	38	6	5	0	49	13	346	51	0	410	896
16:45	11	21	22	0	54	15	328	8	0	351	34	5	8	0	47	12	332	65	0	409	861
17:00	22	17	36	0	75	18	387	8	0	413	43	4	2	2	51	22	312	68	0	402	941
Total Volume	62	63	116	0	241	55	1458	31	0	1544	158	22	24	2	206	70	1304	239	1	1614	3605
% App. Total	25.7	26.1	48.1	0		3.6	94.4	2	0		76.7	10.7	11.7	1		4.3	80.8	14.8	0.1		
PHF	.705	.750	.806	.000	.803	.764	.942	.775	.000	.935	.919	.786	.667	.250	.873	.761	.942	.879	.250	.984	.958



True Count
 3401 First Ave #123
 San Diego, CA 92103

File Name : 8017.05.PIPER RANCH RD.OTAY MESA RD
 Site Code : 00000000
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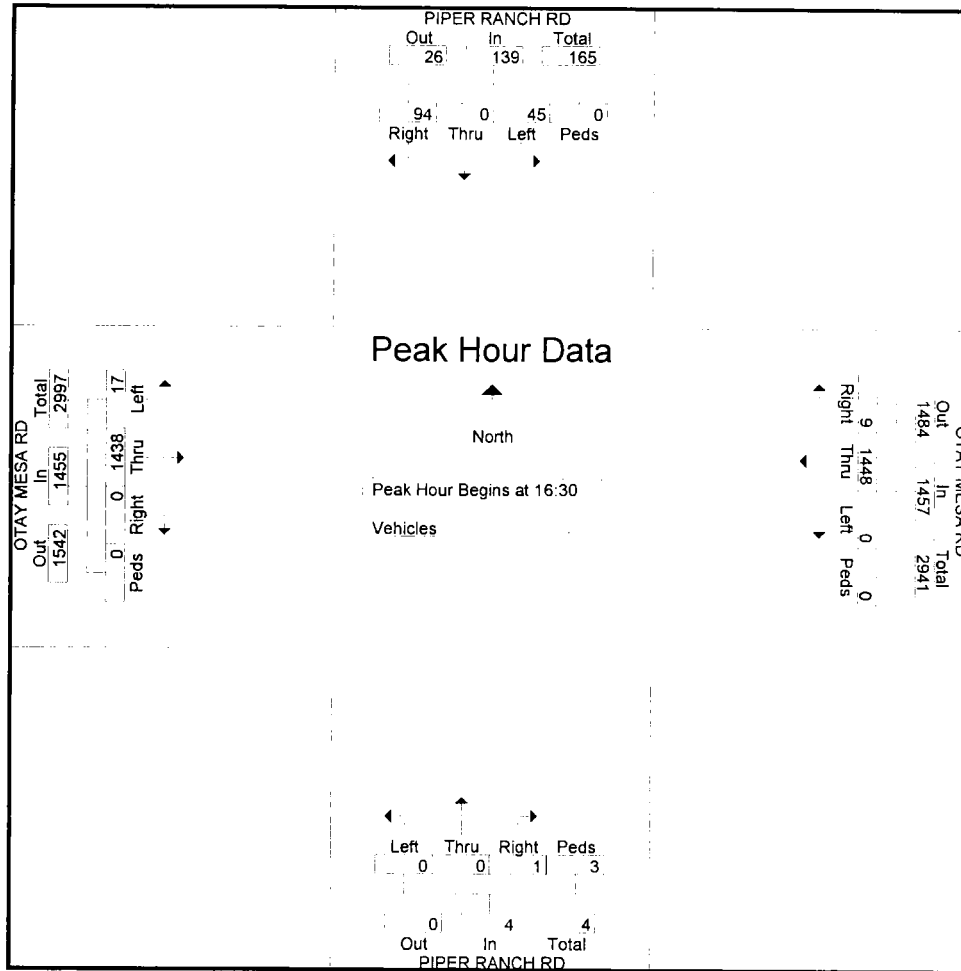
PIPER RANCH RD Southbound						OTAY MESA RD Westbound					PIPER RANCH RD Northbound					OTAY MESA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	0	0	4	1	5	0	273	6	0	279	0	0	0	0	0	19	358	0	0	377	661
07:45	2	0	4	0	6	0	267	8	0	275	0	0	0	0	0	45	393	0	0	438	719
08:00	7	0	8	0	15	0	234	6	0	240	0	0	0	0	0	22	311	0	0	333	588
08:15	0	0	2	0	2	0	254	7	0	261	0	0	0	0	0	20	312	0	0	332	595
Total Volume	9	0	18	1	28	0	1028	27	0	1055	0	0	0	0	0	106	1374	0	0	1480	2563
% App. Total	32.1	0	64.3	3.6		0	97.4	2.6	0		0	0	0	0		7.2	92.8	0	0		
PHF	.321	.000	.563	.250	.467	.000	.941	.844	.000	.945	.000	.000	.000	.000	.000	.589	.874	.000	.000	.845	.891



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3401 First Ave #123
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File Name : 8017.05.PIPER RANCH RD.OTAY MESA RD
Site Code : 00000000
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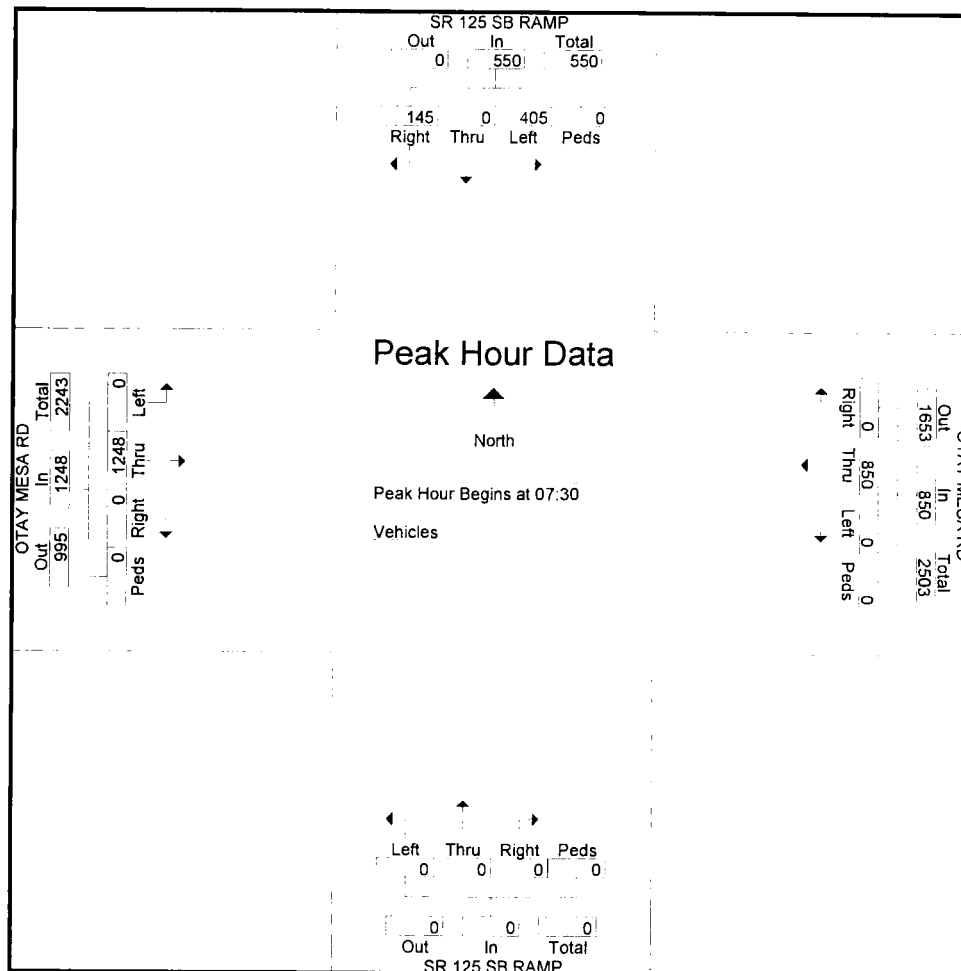
	PIPER RANCH RD Southbound					OTAY MESA RD Westbound					PIPER RANCH RD Northbound					OTAY MESA RD Eastbound						
	Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds		App. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 16:30																						
16:30	13	0	22	0	35	0	381	1	0	382	0	0	0	0	0	8	357	0	0	365	782	
16:45	9	0	16	0	25	0	325	2	0	327	0	0	1	0	1	3	358	0	0	361	714	
17:00	13	0	39	0	52	0	407	2	0	409	0	0	0	1	1	4	365	0	0	369	831	
17:15	10	0	17	0	27	0	335	4	0	339	0	0	0	2	2	2	358	0	0	360	728	
Total Volume	45	0	94	0	139	0	1448	9	0	1457	0	0	1	3	4	17	1438	0	0	1455	3055	
% App. Total	32.4	0	67.6	0		0	99.4	0.6	0		0	0	25	75		1.2	98.8	0	0			
PHF	.865	.000	.603	.000	.668	.000	.889	.563	.000	.891	.000	.000	.250	.375	.500	.531	.985	.000	.000	.986	.919	



True Count
3401 First Ave #123
San Diego, CA 92103

File Name : 8017.07.SR 125 SB RAMP.OTAY MESA RD
Site Code : 00000000
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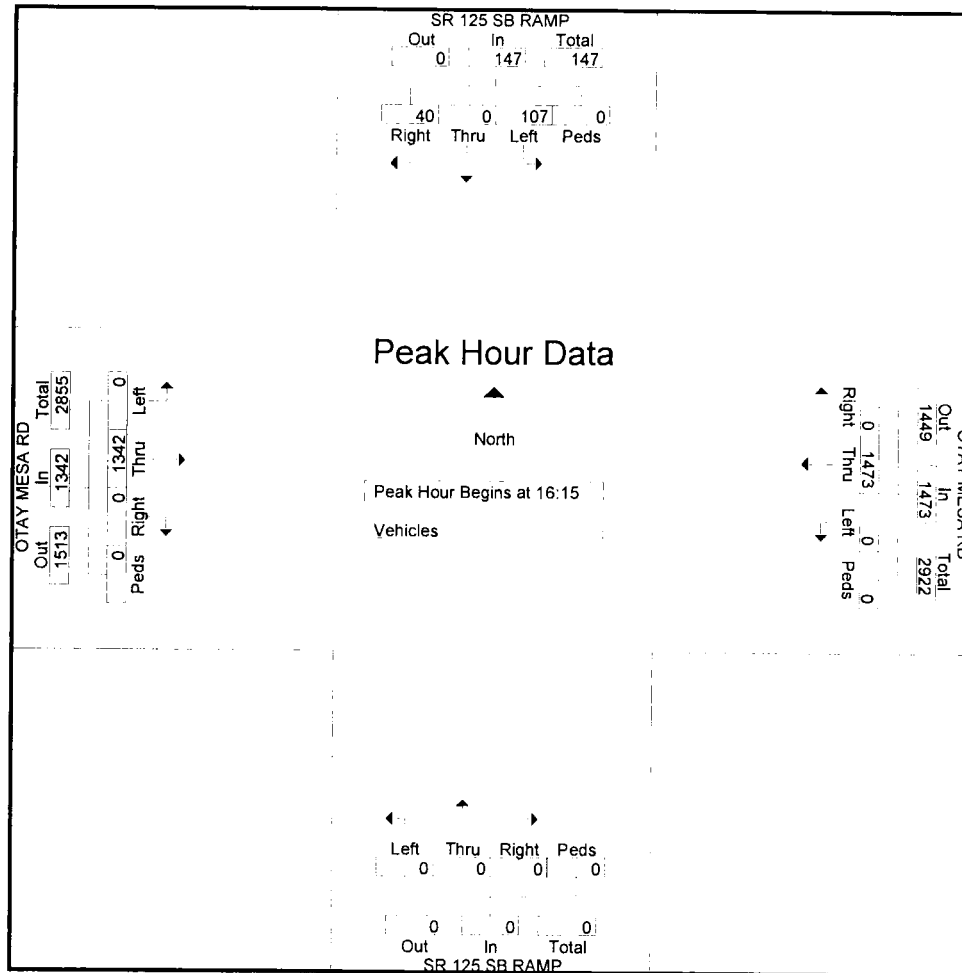
	SR 125 SB RAMP Southbound					OTAY MESA RD Westbound					SR 125 SB RAMP Northbound					OTAY MESA RD Eastbound					Int. Total
	Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	116	0	28	0	144	0	221	0	0	221	0	0	0	0	0	0	332	0	0	332	697
07:45	118	0	45	0	163	0	212	0	0	212	0	0	0	0	0	0	399	0	0	399	774
08:00	87	0	30	0	117	0	190	0	0	190	0	0	0	0	0	0	280	0	0	280	587
08:15	84	0	42	0	126	0	227	0	0	227	0	0	0	0	0	0	237	0	0	237	590
Total Volume	405	0	145	0	550	0	850	0	0	850	0	0	0	0	0	0	1248	0	0	1248	2648
% App. Total	73.6	0	26.4	0		0	100	0	0		0	0	0	0		0	100	0	0		
PHF	.858	.000	.806	.000	.844	.000	.936	.000	.000	.936	.000	.000	.000	.000	.000	.000	.782	.000	.000	.782	.855



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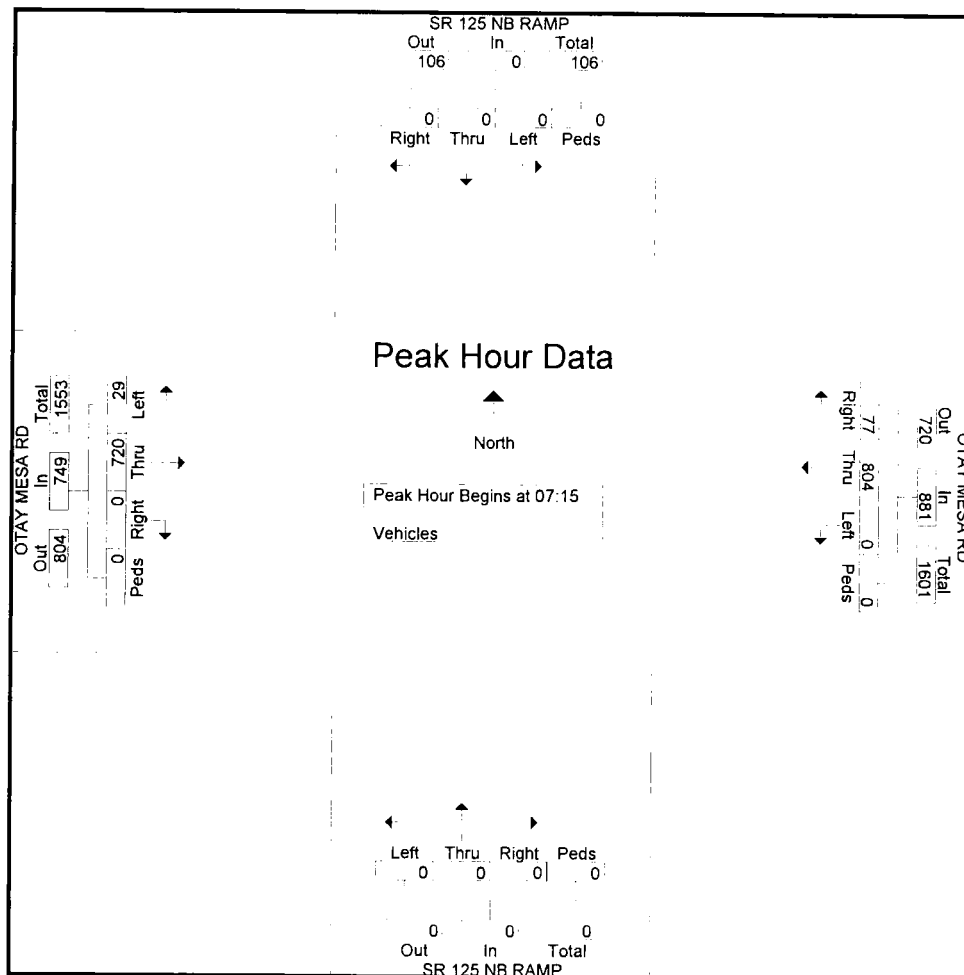
SR 125 SB RAMP Southbound						OTAY MESA RD Westbound					SR 125 SB RAMP Northbound					OTAY MESA RD Eastbound						
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total	
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 16:15																						
16:15	27	0	10	0	37	0	343	0	0	343	0	0	0	0	0	0	328	0	0	328	708	
16:30	24	0	13	0	37	0	400	0	0	400	0	0	0	0	0	0	330	0	0	330	767	
16:45	34	0	9	0	43	0	326	0	0	326	0	0	0	0	0	0	312	0	0	312	681	
17:00	22	0	8	0	30	0	404	0	0	404	0	0	0	0	0	0	372	0	0	372	806	
Total Volume	107	0	40	0	147	0	1473	0	0	1473	0	0	0	0	0	0	1342	0	0	1342	2962	
% App. Total	72.8	0	27.2	0		0	100	0	0		0	0	0	0		0	100	0	0			
PHF	.787	.000	.769	.000	.855	.000	.912	.000	.000	.912	.000	.000	.000	.000	.000	.000	.902	.000	.000	.902	.919	



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Site Code : 00000000
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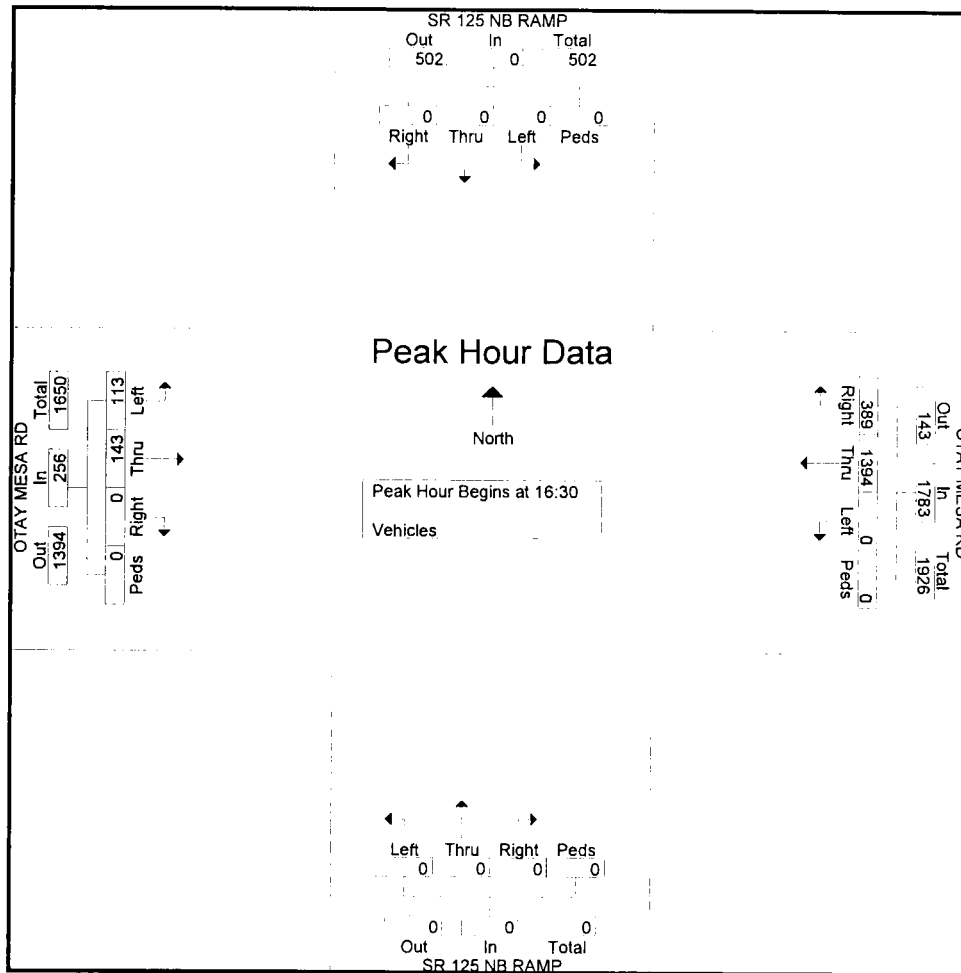
	SR 125 NB RAMP Southbound					OTAY MESA RD Westbound					SR 125 NB RAMP Northbound					OTAY MESA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	0	0	0	0	0	0	205	8	0	213	0	0	0	0	0	10	185	0	0	195	408
07:30	0	0	0	0	0	0	228	28	0	256	0	0	0	0	0	5	209	0	0	214	470
07:45	0	0	0	0	0	0	183	32	0	215	0	0	0	0	0	8	189	0	0	197	412
08:00	0	0	0	0	0	0	188	9	0	197	0	0	0	0	0	6	137	0	0	143	340
Total Volume	0	0	0	0	0	0	804	77	0	881	0	0	0	0	0	29	720	0	0	749	1630
% App. Total	0	0	0	0	0	0	91.3	8.7	0	0	0	0	0	0	0	3.9	96.1	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.882	.602	.000	.860	.000	.000	.000	.000	.000	.725	.861	.000	.000	.875	.867



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Site Code : 00000000
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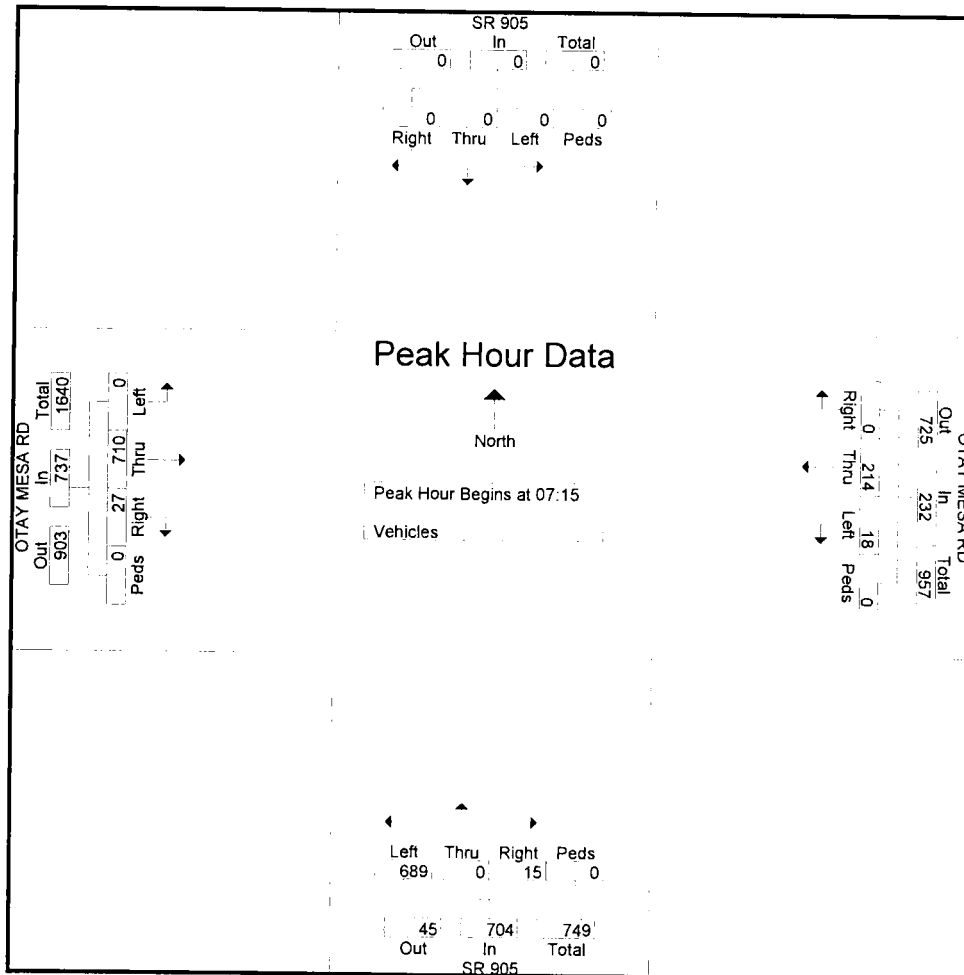
SR 125 NB RAMP Southbound						OTAY MESA RD Westbound						SR 125 NB RAMP Northbound						OTAY MESA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																							
Peak Hour for Entire Intersection Begins at 16:30																							
16:30	0	0	0	0	0	0	374	119	0	493		0	0	0	0	0		29	19	0	0	48	541
16:45	0	0	0	0	0	0	323	78	0	401		0	0	0	0	0		28	40	0	0	68	469
17:00	0	0	0	0	0	0	397	100	0	497		0	0	0	0	0		22	43	0	0	65	562
17:15	0	0	0	0	0	0	300	92	0	392		0	0	0	0	0		34	41	0	0	75	467
Total Volume	0	0	0	0	0	0	1394	389	0	1783		0	0	0	0	0		113	143	0	0	256	2039
% App. Total	0	0	0	0	0	0	78.2	21.8	0			0	0	0	0			44.1	55.9	0	0		
PHF	.000	.000	.000	.000	.000	.000	.878	.817	.000	.897		.000	.000	.000	.000	.000		.831	.831	.000	.000	.853	.907



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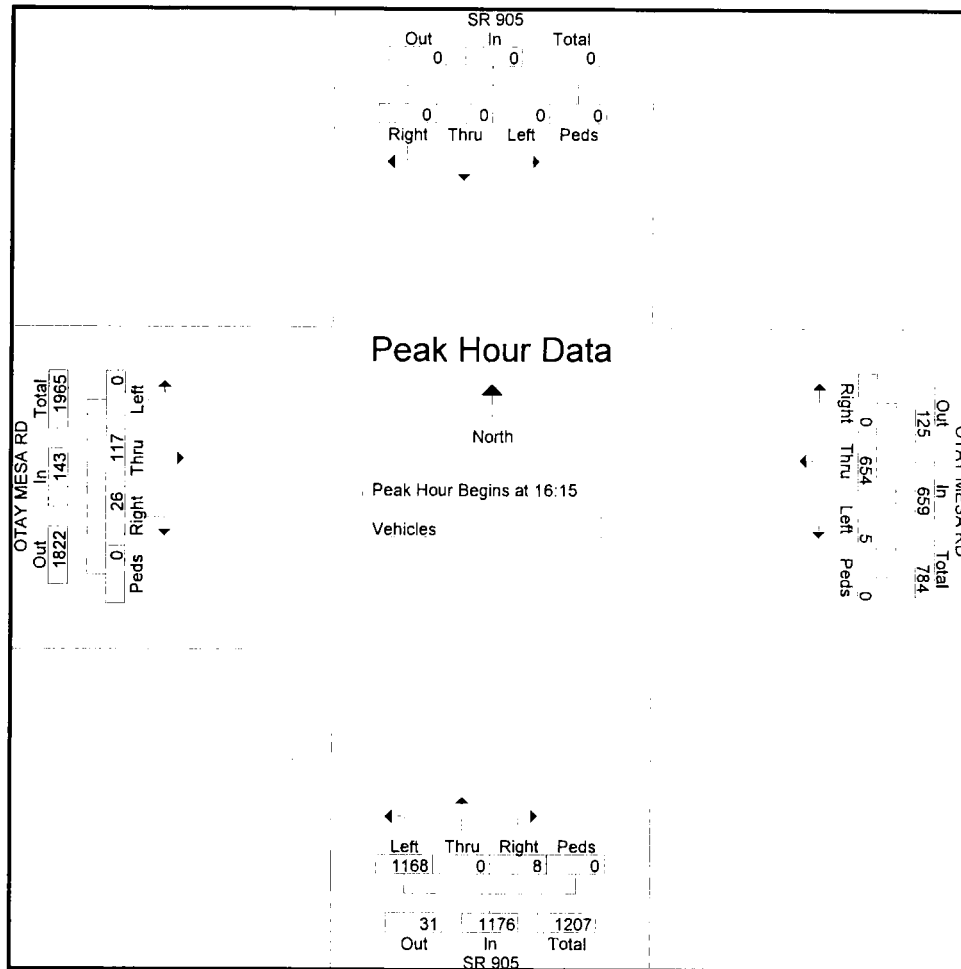
SR 905 Southbound						OTAY MESA RD Westbound					SR 905 Northbound					OTAY MESA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	0	0	0	0	0	3	25	0	0	28	189	0	6	0	195	0	173	6	0	179	402
07:30	0	0	0	0	0	6	64	0	0	70	192	0	2	0	194	0	215	7	0	222	486
07:45	0	0	0	0	0	4	61	0	0	65	163	0	4	0	167	0	189	10	0	199	431
08:00	0	0	0	0	0	5	64	0	0	69	145	0	3	0	148	0	133	4	0	137	354
Total Volume	0	0	0	0	0	18	214	0	0	232	689	0	15	0	704	0	710	27	0	737	1673
% App. Total	0	0	0	0		7.8	92.2	0	0		97.9	0	2.1	0		0	96.3	3.7	0		
PHF	.000	.000	.000	.000	.000	.750	.836	.000	.000	.829	.897	.000	.625	.000	.903	.000	.826	.675	.000	.830	.861



True Count
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Site Code : 00000000
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SR 905 Southbound						OTAY MESA RD Westbound						SR 905 Northbound						OTAY MESA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																							
Peak Hour for Entire Intersection Begins at 16:15																							
16:15	0	0	0	0	0	2	160	0	0	162	274	0	1	0	275	0	32	3	0	35	472		
16:30	0	0	0	0	0	0	216	0	0	216	295	0	1	0	296	0	26	4	0	30	542		
16:45	0	0	0	0	0	1	153	0	0	154	254	0	2	0	256	0	28	7	0	35	445		
17:00	0	0	0	0	0	2	125	0	0	127	345	0	4	0	349	0	31	12	0	43	519		
Total Volume	0	0	0	0	0	5	654	0	0	659	1168	0	8	0	1176	0	117	26	0	143	1978		
% App. Total	0	0	0	0	0	0.8	99.2	0	0	99.3	99.3	0	0.7	0	99.3	0	81.8	18.2	0	83.1	91.2		
PHF	.000	.000	.000	.000	.000	.625	.757	.000	.000	.763	.846	.000	.500	.000	.842	.000	.914	.542	.000	.831	.912		



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Harvest Rd

DATE: 06/11/2008

LOCATION: City of San Diego

E-W STREET: Otay Mesa Rd

DAY: WEDNESDAY

PROJECT# 08-4154-007

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	0	1	0	0	1	0	0	1	0	0	1	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	0			0		0	3	120	1	0	27	1	152
7:15 AM	2			0		1	3	170	0	0	34	0	210
7:30 AM	0			0		1	1	244	0	0	46	0	292
7:45 AM	0			0		2	2	258	0	1	60	1	329
8:00 AM	0			1		2	1	262	0	1	55	0	322
8:15 AM	0			0		3	3	197	0	0	39	0	242
8:30 AM	0			0		1	3	116	0	0	38	0	158
8:45 AM	0			0		2	4	86	1	0	19	0	112
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													
TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
VOLUMES =	2	0	0	1	0	12	25	1453	2	2	318	2	1817

AM Peak Hr Begins at: 730 AM

PEAK													
VOLUMES =	0	0	0	1	0	8	12	961	0	2	200	1	1185
PEAK HR, FACTOR:	0.000			0.750			0.918			0.819			0.900

CONTROL: 2-Way Stop Sign (NS)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Harvest Rd

DATE: 06/11/2008

LOCATION: City of San Diego

E-W STREET: Otay Mesa Rd

DAY: WEDNESDAY

PROJECT# 08-4154-007

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	0	1	0	0	1	0	0	1	0	0	1	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	0			0		1	1	35	0	0	157	0	194
4:15 PM	0			0		2	1	28	8	1	167	2	209
4:30 PM	1			0		1	2	42	0	0	192	2	240
4:45 PM	0			1		2	1	35	0	0	230	0	269
5:00 PM	0			0		4	2	40	0	0	211	1	258
5:15 PM	0			0		4	3	35	0	0	143	0	185
5:30 PM	0			0		1	5	37	0	0	100	0	143
5:45 PM	0			0		3	0	20	0	0	88	2	113
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
VOLUMES =	1	0	0	1	0	18	15	272	8	1	1288	7	1611

PM Peak Hr Begins at: 415 PM

PEAK													
VOLUMES =	1	0	0	1	0	9	6	145	8	1	800	5	976
PEAK HR.													
FACTOR:		0.250			0.625			0.903			0.876		0.907

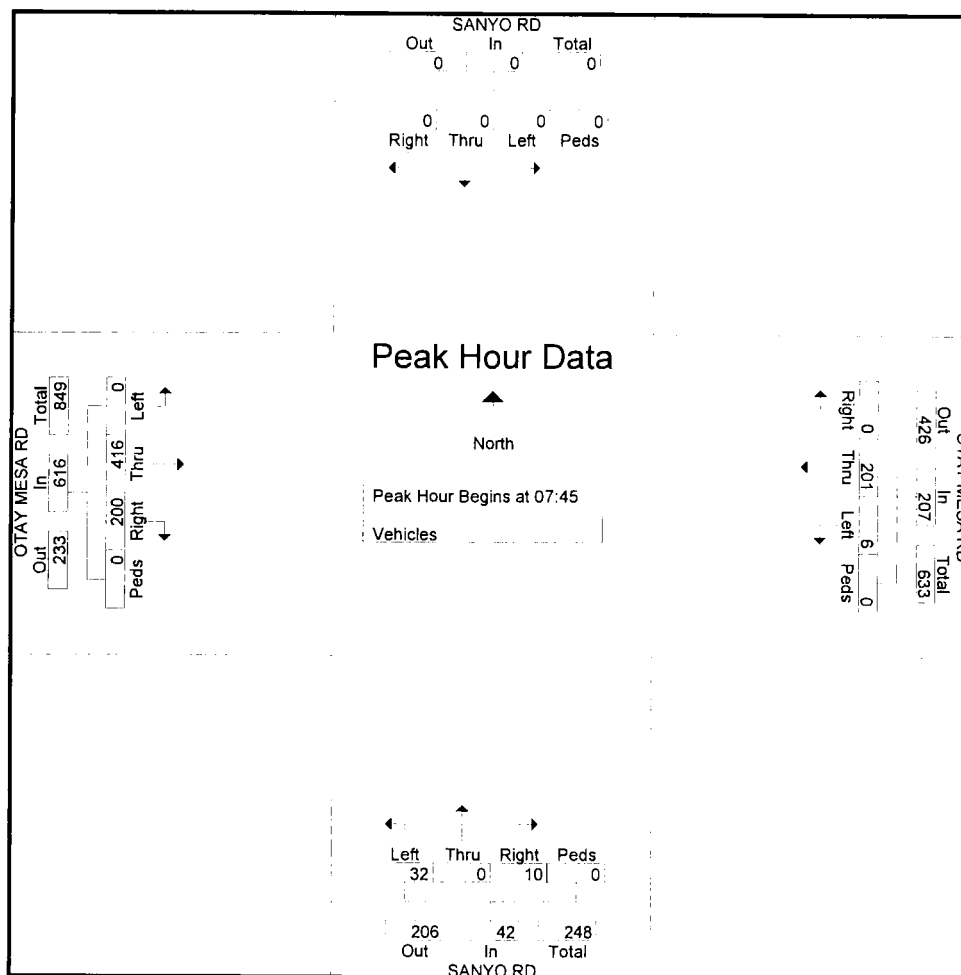
CONTROL: 2-Way Stop Sign (NS)

True Count

3401 First Ave #123
San Diego, CA 92103

File Name : 8021.14.SANYO RD.OTAY MESA RD
Site Code : 00000000
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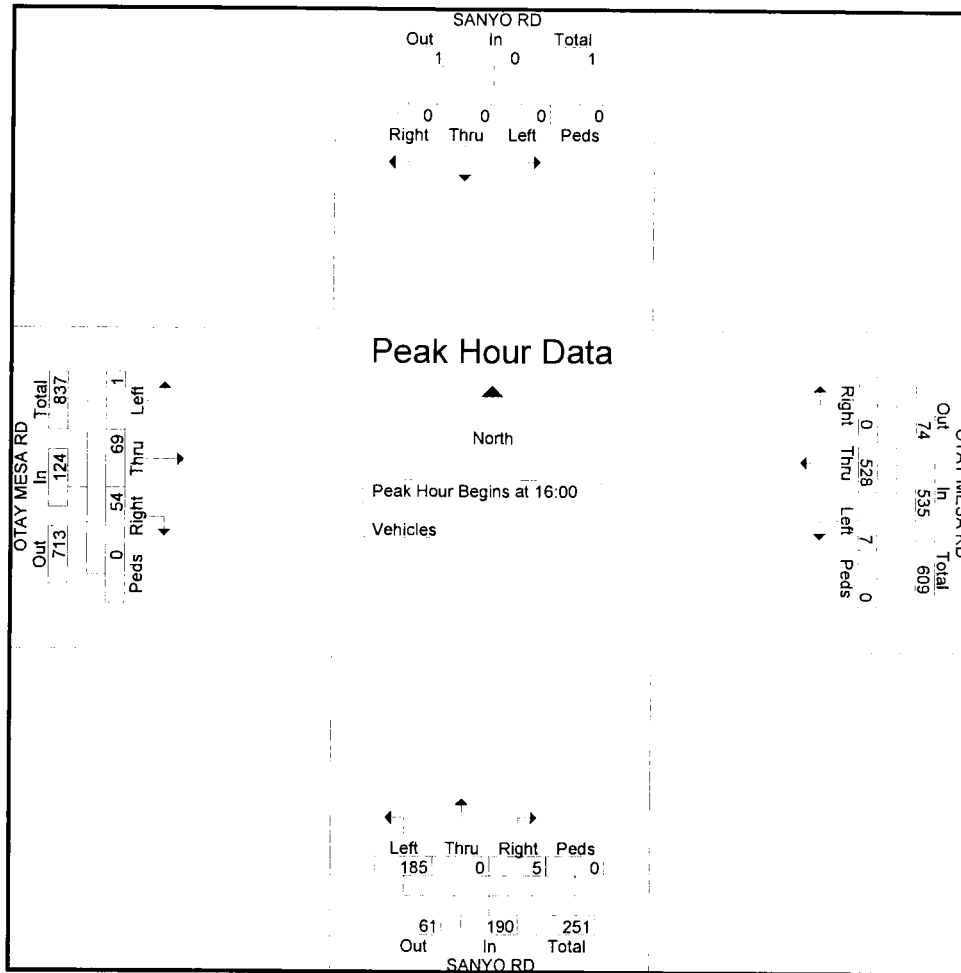
SANYO RD Southbound						OTAY MESA RD Westbound					SANYO RD Northbound					OTAY MESA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	0	0	0	0	0	3	51	0	0	54	7	0	4	0	11	0	148	57	0	205	270
08:00	0	0	0	0	0	0	49	0	0	49	9	0	4	0	13	0	86	50	0	136	198
08:15	0	0	0	0	0	1	49	0	0	50	8	0	1	0	9	0	100	34	0	134	193
08:30	0	0	0	0	0	2	52	0	0	54	8	0	1	0	9	0	82	59	0	141	204
Total Volume	0	0	0	0	0	6	201	0	0	207	32	0	10	0	42	0	416	200	0	616	865
% App. Total	0	0	0	0	0	2.9	97.1	0	0	76.2	0	23.8	0	0	0	0	67.5	32.5	0	0	0
PHF	.000	.000	.000	.000	.000	.500	.966	.000	.000	.958	.889	.000	.625	.000	.808	.000	.703	.847	.000	.751	.801



True Count
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File Name : 8021.14.SANYO RD.OTAY MESA RD
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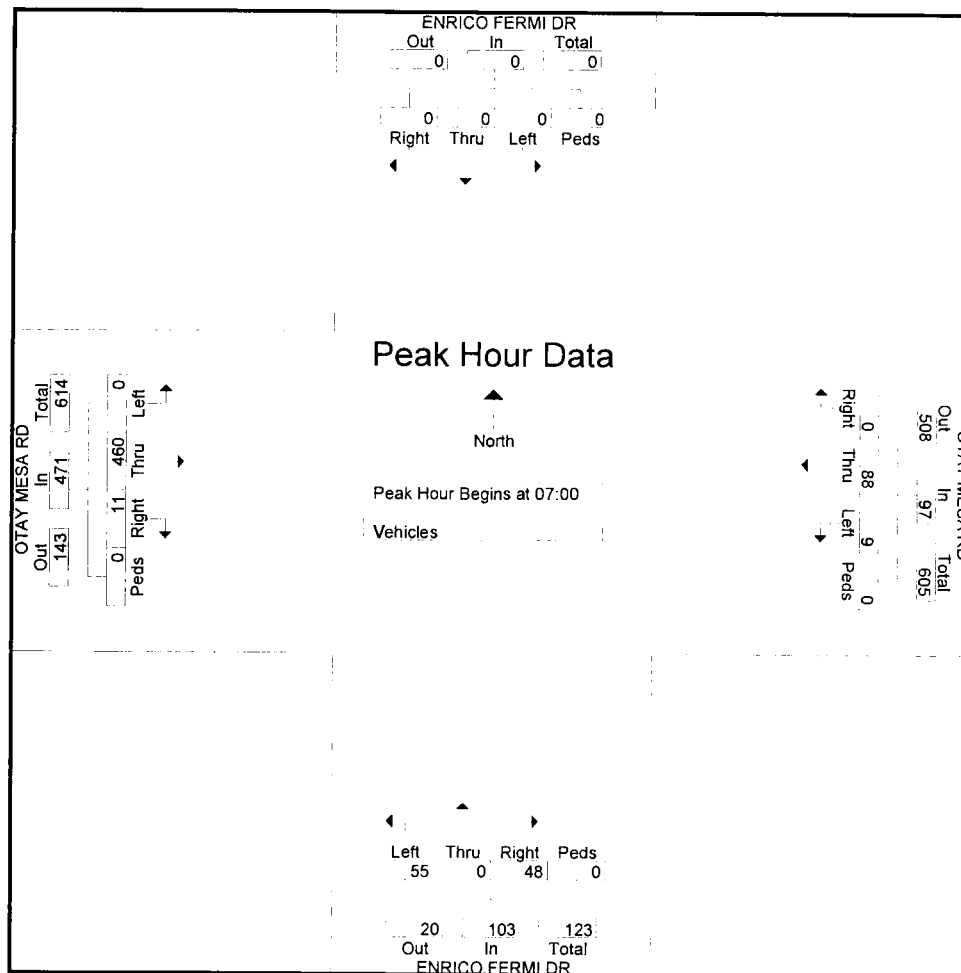
	SANYO RD Southbound					OTAY MESA RD Westbound					SANYO RD Northbound					OTAY MESA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	3	165	0	0	168	51	0	1	0	52	1	14	17	0	32	252
16:15	0	0	0	0	0	0	128	0	0	128	32	0	1	0	33	0	13	13	0	26	187
16:30	0	0	0	0	0	4	167	0	0	171	58	0	2	0	60	0	22	10	0	32	263
16:45	0	0	0	0	0	0	68	0	0	68	44	0	1	0	45	0	20	14	0	34	147
Total Volume	0	0	0	0	0	7	528	0	0	535	185	0	5	0	190	1	69	54	0	124	849
% App. Total	0	0	0	0	0	1.3	98.7	0	0	97.4	0	2.6	0	0	0.8	55.6	43.5	0	0	91.2	807
PHF	.000	.000	.000	.000	.000	.438	.790	.000	.000	.782	.797	.000	.625	.000	.792	.250	.784	.794	.000	.912	.807



True count
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File Name : 8005.05.ENRICO FERMI DR.OTAY MESA RD
 Site Code : 00000000
 Start Date : 1/22/2008
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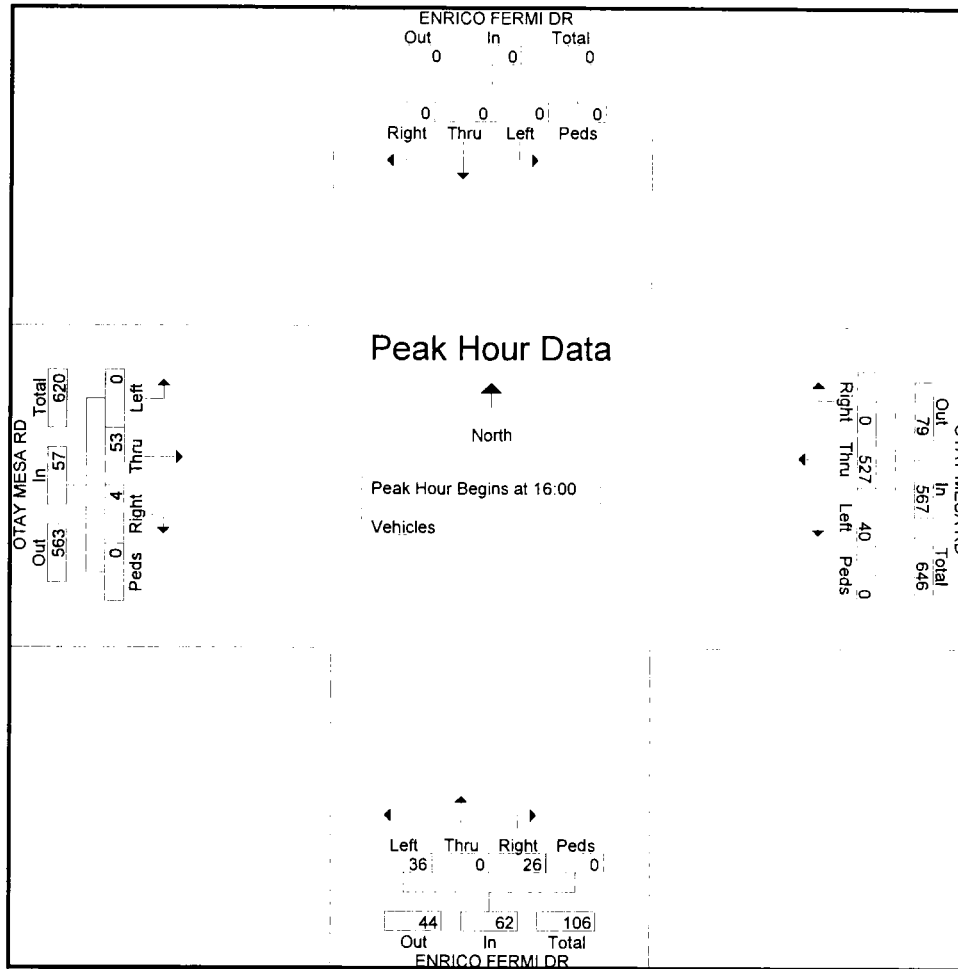
Start Time	ENRICO FERMI DR Southbound					OTAY MESA RD Westbound					ENRICO FERMI DR Northbound					OTAY MESA RD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	0	0	0	0	0	0	10	0	0	10	12	0	12	0	24	0	88	3	0	91	125
07:15	0	0	0	0	0	4	14	0	0	18	19	0	12	0	31	0	122	3	0	125	174
07:30	0	0	0	0	0	1	38	0	0	39	9	0	12	0	21	0	136	2	0	138	198
07:45	0	0	0	0	0	4	26	0	0	30	15	0	12	0	27	0	114	3	0	117	174
Total Volume	0	0	0	0	0	9	88	0	0	97	55	0	48	0	103	0	460	11	0	471	671
% App. Total	0	0	0	0	0	9.3	90.7	0	0	53.4	0	46.6	0	103	0	97.7	2.3	0			
PHF	.000	.000	.000	.000	.000	.563	.579	.000	.000	.622	.724	.000	1.000								



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File Name : 8005.05.ENRICO FERMI DR.OTAY MESA RD
 Site Code : 00000000
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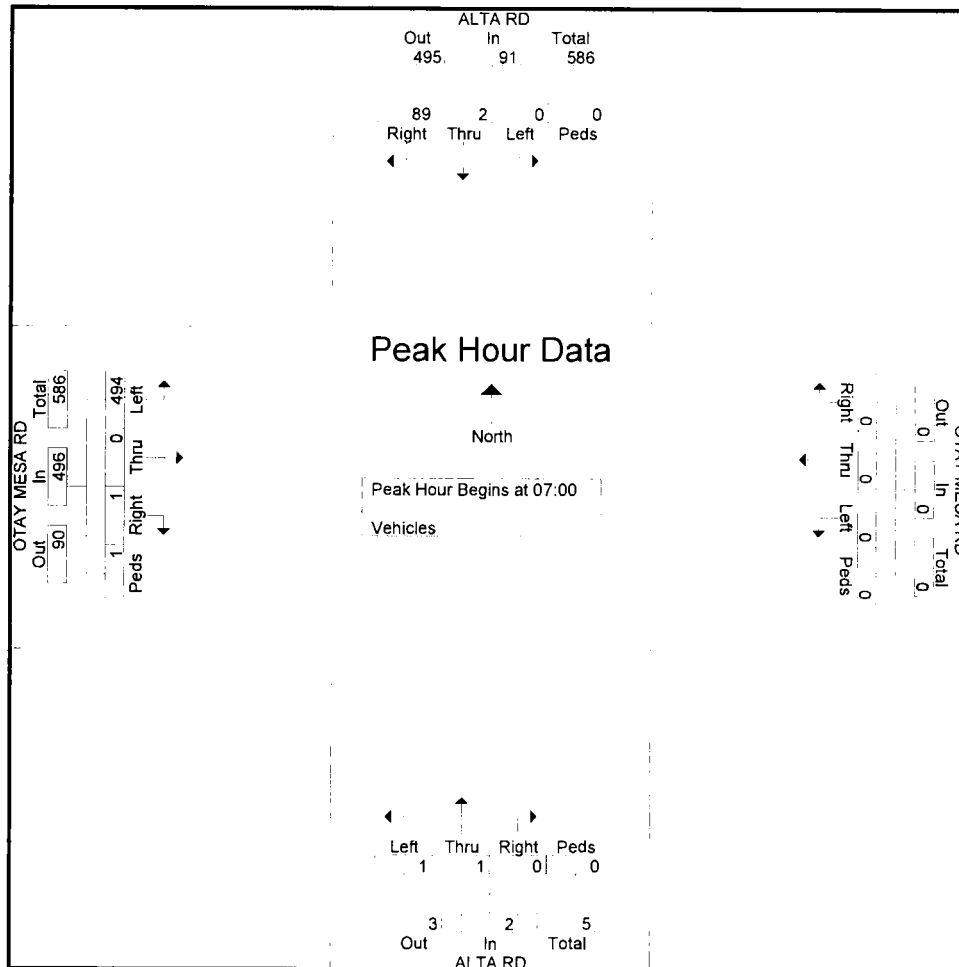
	ENRICO FERMI DR					OTAY MESA RD					ENRICO FERMI DR					OTAY MESA RD					
	Southbound					Westbound					Northbound					Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	8	157	0	0	165	1	0	7	0	8	0	13	0	0	13	186
16:15	0	0	0	0	0	7	125	0	0	132	11	0	6	0	17	0	16	1	0	17	166
16:30	0	0	0	0	0	17	137	0	0	154	13	0	3	0	16	0	14	1	0	15	185
16:45	0	0	0	0	0	8	108	0	0	116	11	0	10	0	21	0	10	2	0	12	149
Total Volume	0	0	0	0	0	40	527	0	0	567	36	0	26	0	62	0	53	4	0	57	686
% App. Total	0	0	0	0	0	7.1	92.9	0	0	58.1	0	41.9	0	0	0	0	93	7	0	0	
PHF	.000	.000	.000	.000	.000	.588	.839	.000	.000	.859	.692	.000	.650	.000	.738	.000	.828	.500	.000	.838	.922



True count
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File Name : 8005.06.ALTA RD.OTAY MESA RD
 Site Code : 00000000
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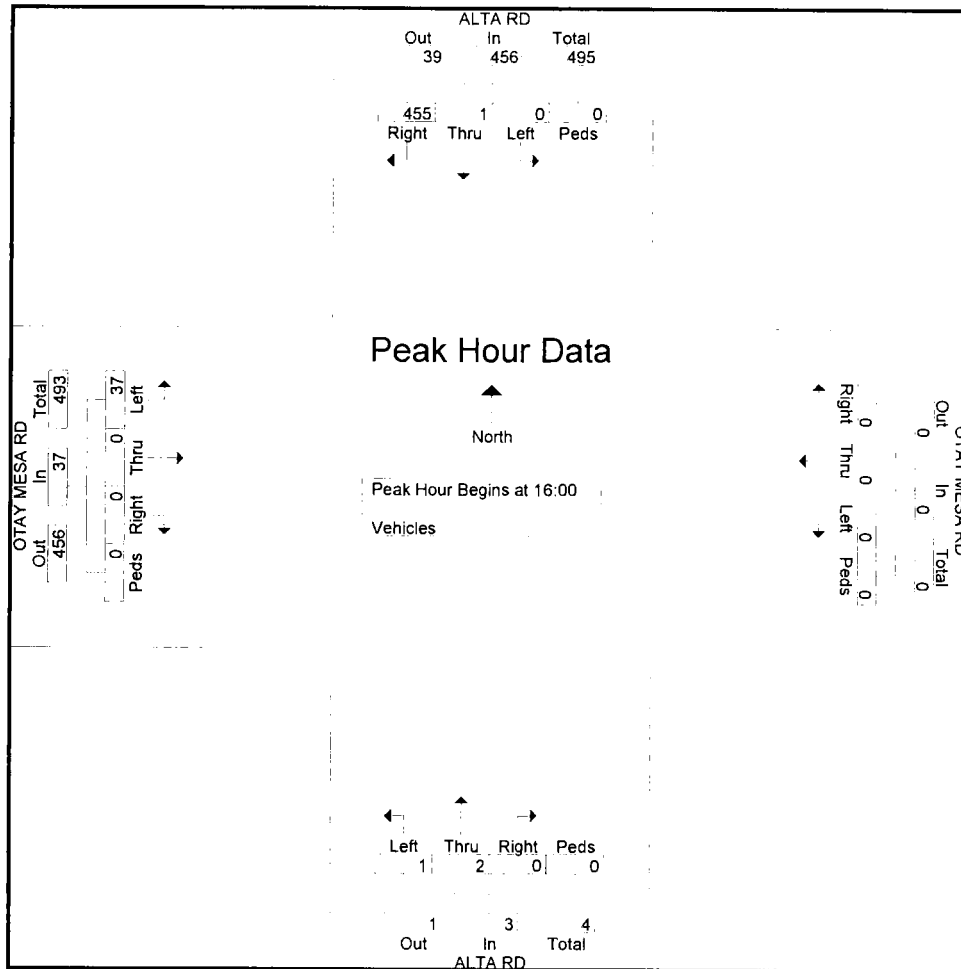
	ALTA RD Southbound					OTAY MESA RD Westbound					ALTA RD Northbound					OTAY MESA RD Eastbound					Int. Total	
	Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds		App. Total
	Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																						
07:00	0	1	11	0	12	0	0	0	0	0	0	0	0	0	0	98	0	0	0	0	98	110
07:15	0	1	16	0	17	0	0	0	0	0	1	0	0	0	1	125	0	0	1	126	144	
07:30	0	0	36	0	36	0	0	0	0	0	0	0	0	0	0	142	0	0	0	142	178	
07:45	0	0	26	0	26	0	0	0	0	0	0	1	0	0	1	129	0	1	0	130	157	
Total Volume	0	2	89	0	91	0	0	0	0	0	1	1	0	0	2	494	0	1	1	496	589	
% App. Total	0	2.2	97.8	0		0	0	0	0		50	50	0	0		99.6	0	0.2	0.2			
PHF	.000	.500	.618	.000	.632	.000	.000	.000	.000	.000	.250	.250	.000	.000	.500	.870	.000	.250	.250	.873	.827	



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File Name : 8005.06.ALTA RD.OTAY MESA RD
Site Code : 00000000
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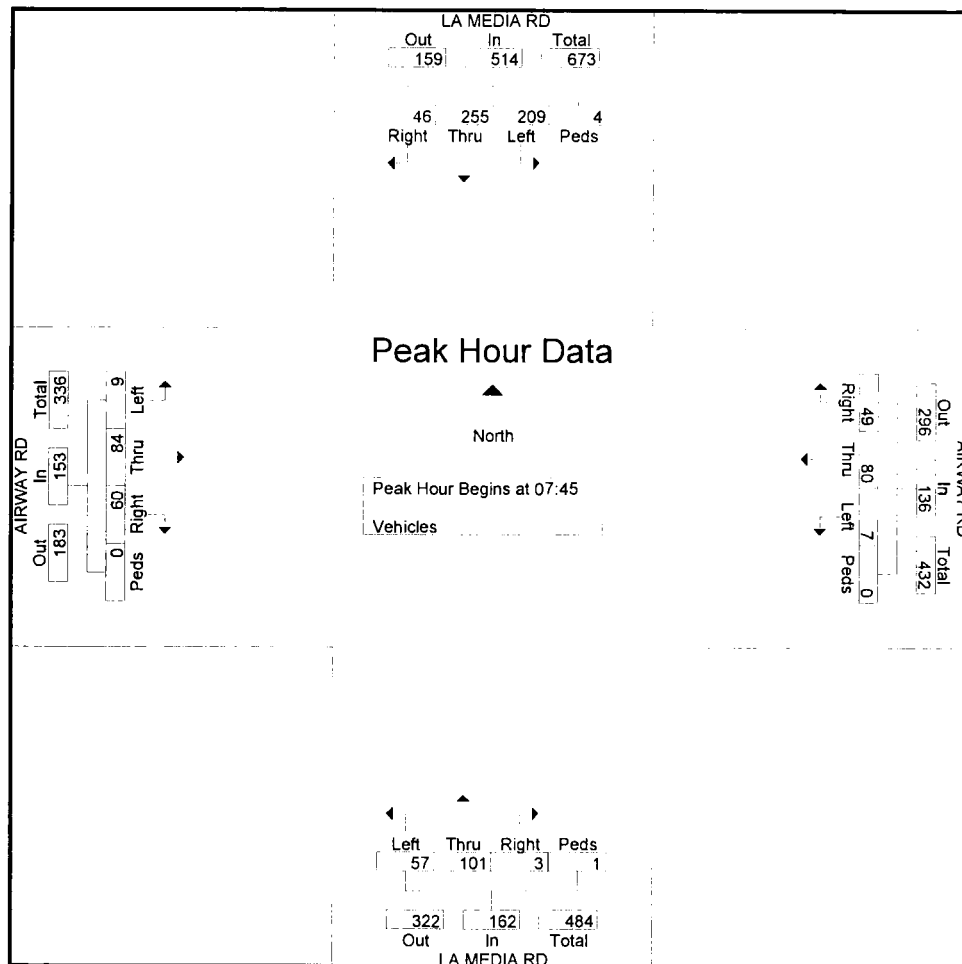
ALTA RD Southbound						OTAY MESA RD Westbound					ALTA RD Northbound					OTAY MESA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Inl. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	136	0	136	0	0	0	0	0	0	0	0	0	0	6	0	0	0	6	142
16:15	0	0	101	0	101	0	0	0	0	0	1	1	0	0	2	9	0	0	0	9	112
16:30	0	0	121	0	121	0	0	0	0	0	0	1	0	0	1	13	0	0	0	13	135
16:45	0	1	97	0	98	0	0	0	0	0	0	0	0	0	0	9	0	0	0	9	107
Total Volume	0	1	455	0	456	0	0	0	0	0	1	2	0	0	3	37	0	0	0	37	496
% App. Total	0	0.2	99.8	0		0	0	0	0		33.3	66.7	0	0		100	0	0	0		
PHF	.000	.250	.836	.000	.838	.000	.000	.000	.000	.000	.250	.500	.000	.000	.375	.712	.000	.000	.000	.712	.873



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File Name : 8021.01.LA MEDIA RD.AIRWAY RD
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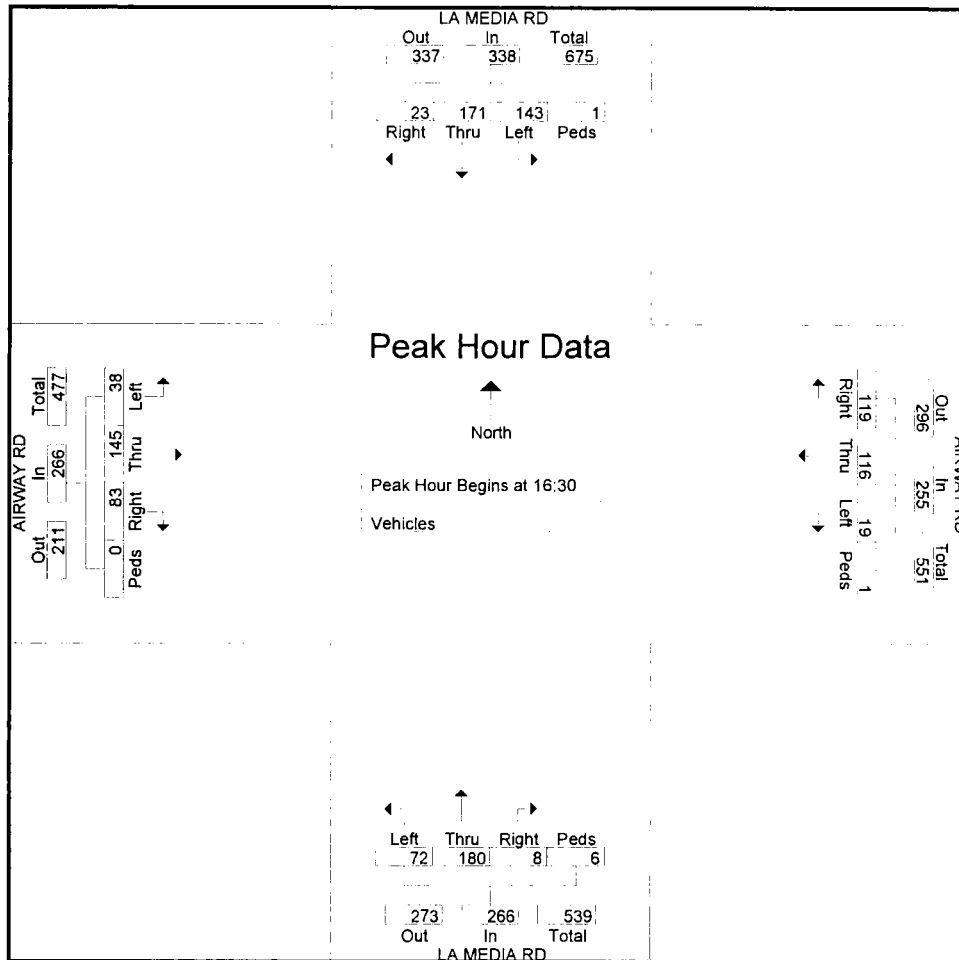
LA MEDIA RD Southbound						AIRWAY RD Westbound					LA MEDIA RD Northbound					AIRWAY RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	64	78	18	1	161	1	17	11	0	29	9	14	2	0	25	1	18	15	0	34	249
08:00	62	73	10	1	146	3	19	11	0	33	17	34	0	1	52	3	17	17	0	37	268
08:15	41	49	8	1	99	1	24	11	0	36	14	27	1	0	42	2	25	10	0	37	214
08:30	42	55	10	1	108	2	20	16	0	38	17	26	0	0	43	3	24	18	0	45	234
Total Volume	209	255	46	4	514	7	80	49	0	136	57	101	3	1	162	9	84	60	0	153	965
% App. Total	40.7	49.6	8.9	0.8		5.1	58.8	36	0		35.2	62.3	1.9	0.6		5.9	54.9	39.2	0		
PHF	.816	.817	.639	1.000																	



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File Name : 8021.01.LA MEDIA RD.AIRWAY RD
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LA MEDIA RD Southbound						AIRWAY RD Westbound					LA MEDIA RD Northbound					AIRWAY RD Eastbound						
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total	
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 16:30																						
16:30	39	40	7	0	86	5	26	34	1	66	18	39	2	2	61	11	38	21	0	70	283	
16:45	42	56	2	1	101	6	27	28	0	61	8	45	2	0	55	8	32	16	0	56	273	
17:00	31	37	8	0	76	5	32	31	0	68	21	45	1	0	67	8	42	23	0	73	284	
17:15	31	38	6	0	75	3	31	26	0	60	25	51	3	4	83	11	33	23	0	67	285	
Total Volume	143	171	23	1	338	19	116	119	1	255	72	180	8	6	266	38	145	83	0	266	1125	
% App. Total	42.3	50.6	6.8	0.3		7.5	45.5	46.7	0.4		27.1	67.7	3	2.3		14.3	54.5	31.2	0			
PHF	.851	.763	.719	.250	.837	.792	.906	.875	.250	.938	.720	.882	.667	.375	.801	.864	.863	.902	.000	.911	.987	

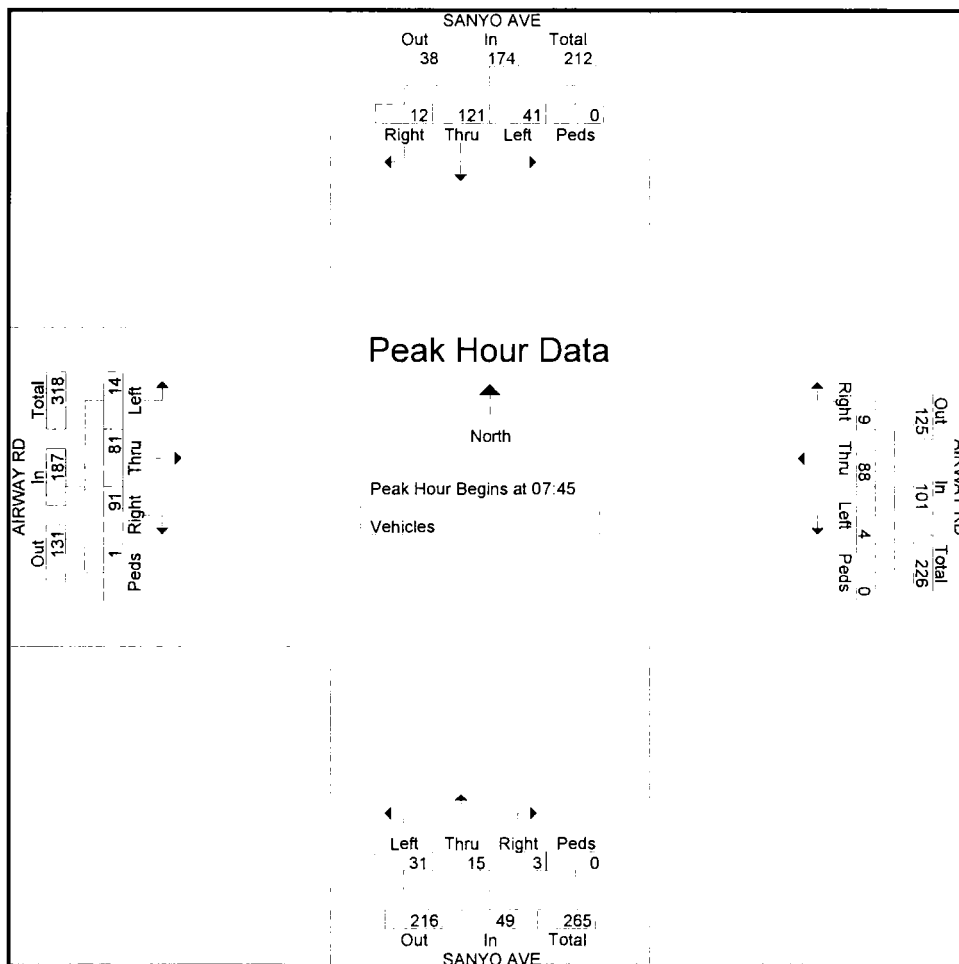


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Site Code : 00000000
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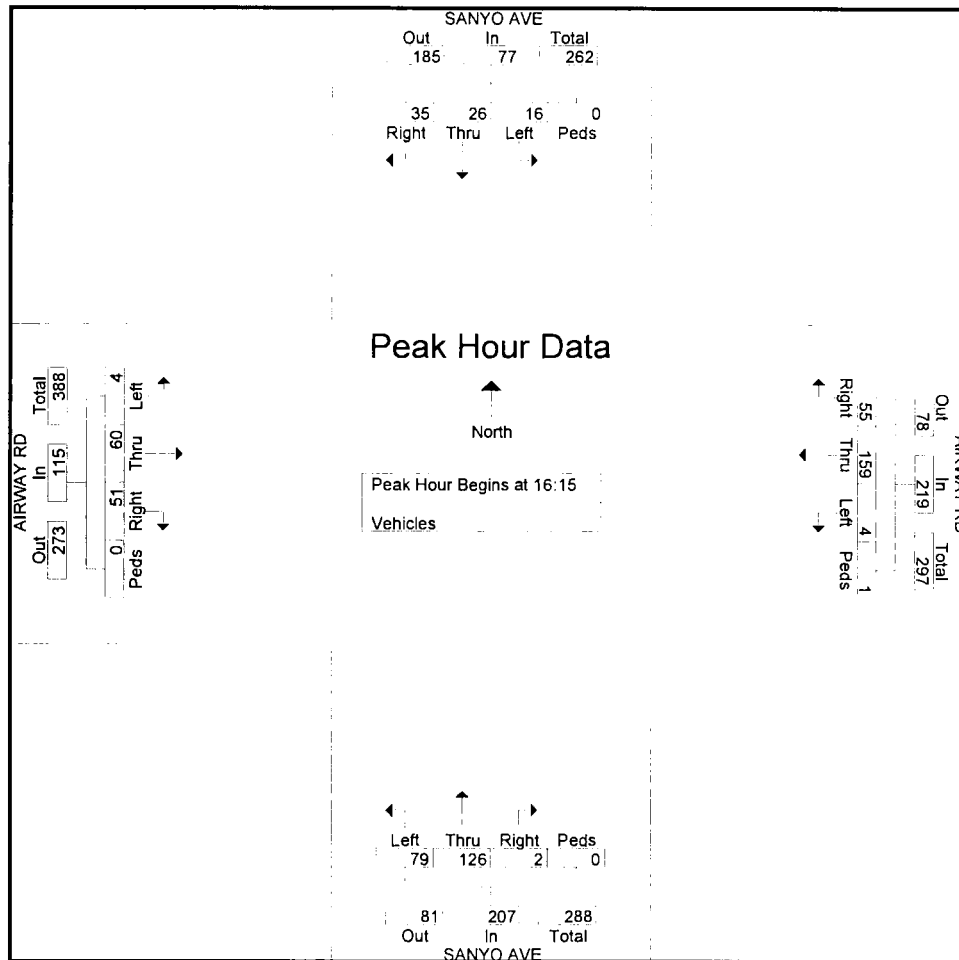
SANYO AVE Southbound						AIRWAY RD Westbound					SANYO AVE Northbound					AIRWAY RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	15	40	2	0	57	1	19	1	0	21	5	4	1	0	10	3	24	21	1	49	137
08:00	8	31	4	0	43	1	31	4	0	36	3	3	1	0	7	3	18	28	0	49	135
08:15	13	26	3	0	42	0	18	2	0	20	9	5	0	0	14	4	22	20	0	46	122
08:30	5	24	3	0	32	2	20	2	0	24	14	3	1	0	18	4	17	22	0	43	117
Total Volume	41	121	12	0	174	4	88	9	0	101	31	15	3	0	49	14	81	91	1	187	511
% App. Total	23.6	69.5	6.9	0		4	87.1	8.9	0		63.3	30.6	6.1	0		7.5	43.3	48.7	0.5		
PHF	.683	.756	.750	.000	.763	.500	.710	.563	.000	.701	.554	.750	.750	.000	.681	.875	.844	.813	.250	.954	.932



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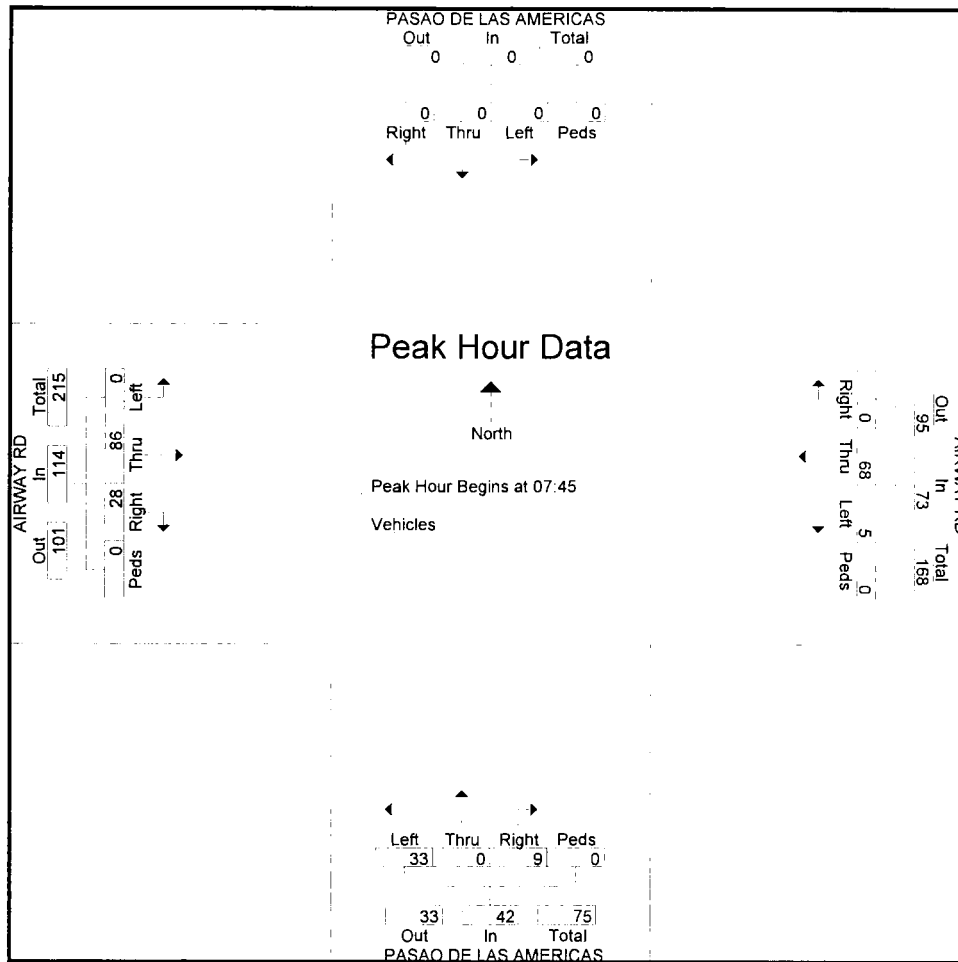
SANYO AVE Southbound						AIRWAY RD Westbound					SANYO AVE Northbound					AIRWAY RD Eastbound					Int. Total	
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 16:15																						
16:15	6	2	13	0	21	0	44	11	0	55	11	16	2	0	29	1	17	16	0	34	139	
16:30	2	13	11	0	26	2	37	15	1	55	23	37	0	0	60	1	16	15	0	32	173	
16:45	3	7	3	0	13	1	40	13	0	54	18	25	0	0	43	2	5	12	0	19	129	
17:00	5	4	8	0	17	1	38	16	0	55	27	48	0	0	75	0	22	8	0	30	177	
Total Volume	16	26	35	0	77	4	159	55	1	219	79	126	2	0	207	4	60	51	0	115	618	
% App. Total	20.8	33.8	45.5	0		1.8	72.6	25.1	0.5		38.2	60.9	1	0		3.5	52.2	44.3	0			
PHF	.667	.500	.673	.000	.740	.500	.903	.859	.250	.995	.731	.656	.250	.000	.690	.500	.682	.797	.000	.846	.873	



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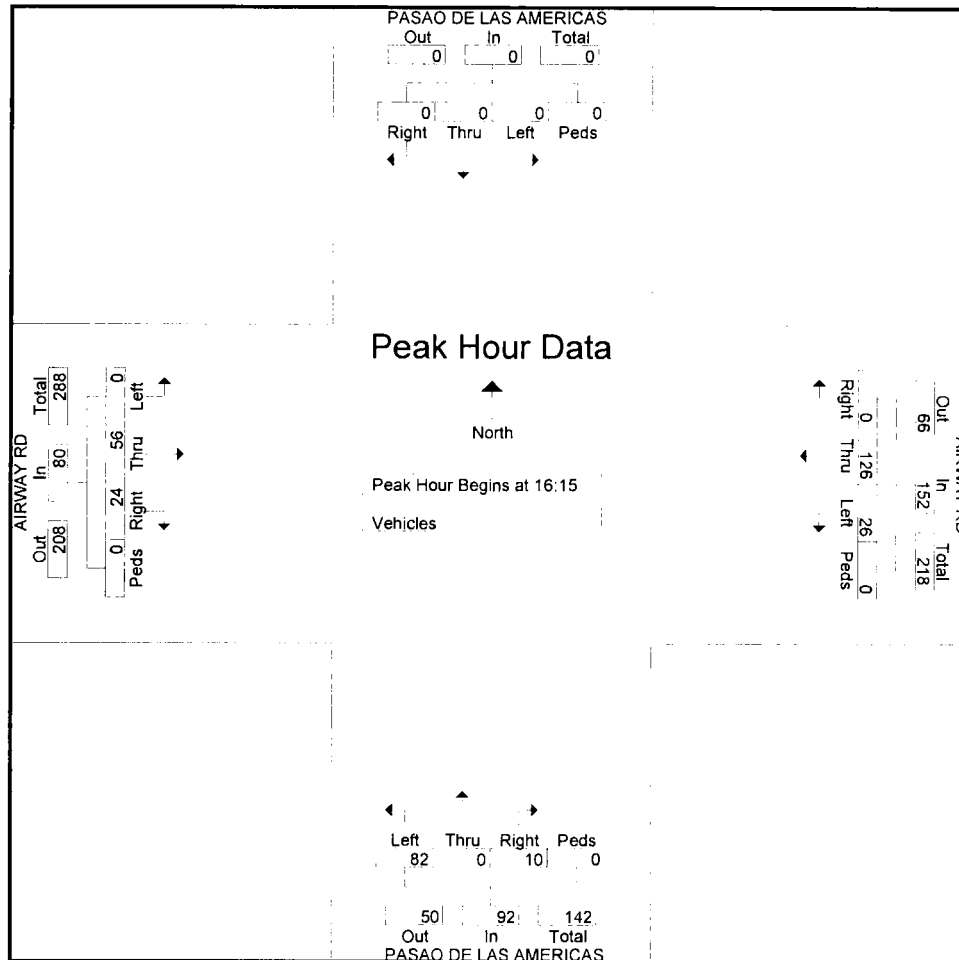
	PASAO DE LAS AMERICAS Southbound					AIRWAY RD Westbound					PASAO DE LAS AMERICAS Northbound					AIRWAY RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	0	0	0	0	0	1	22	0	0	23	5	0	1	0	6	0	23	12	0	35	64
08:00	0	0	0	0	0	1	16	0	0	17	16	0	3	0	19	0	20	6	0	26	62
08:15	0	0	0	0	0	1	11	0	0	12	6	0	3	0	9	0	24	8	0	32	53
08:30	0	0	0	0	0	2	19	0	0	21	6	0	2	0	8	0	19	2	0	21	50
Total Volume	0	0	0	0	0	5	68	0	0	73	33	0	9	0	42	0	86	28	0	114	229
% App. Total	0	0	0	0	0	6.8	93.2	0	0	78.6	0	21.4	0	0	75.4	0	75.4	24.6	0		
PHF	.000	.000	.000	.000	.000	.625	.773	.000	.000	.793	.516	.000	.750	.000	.553	.000	.896	.583	.000	.814	.895



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File Name : 8021.11.PASAO DE LAS AMERICAS.AIRWAY RD
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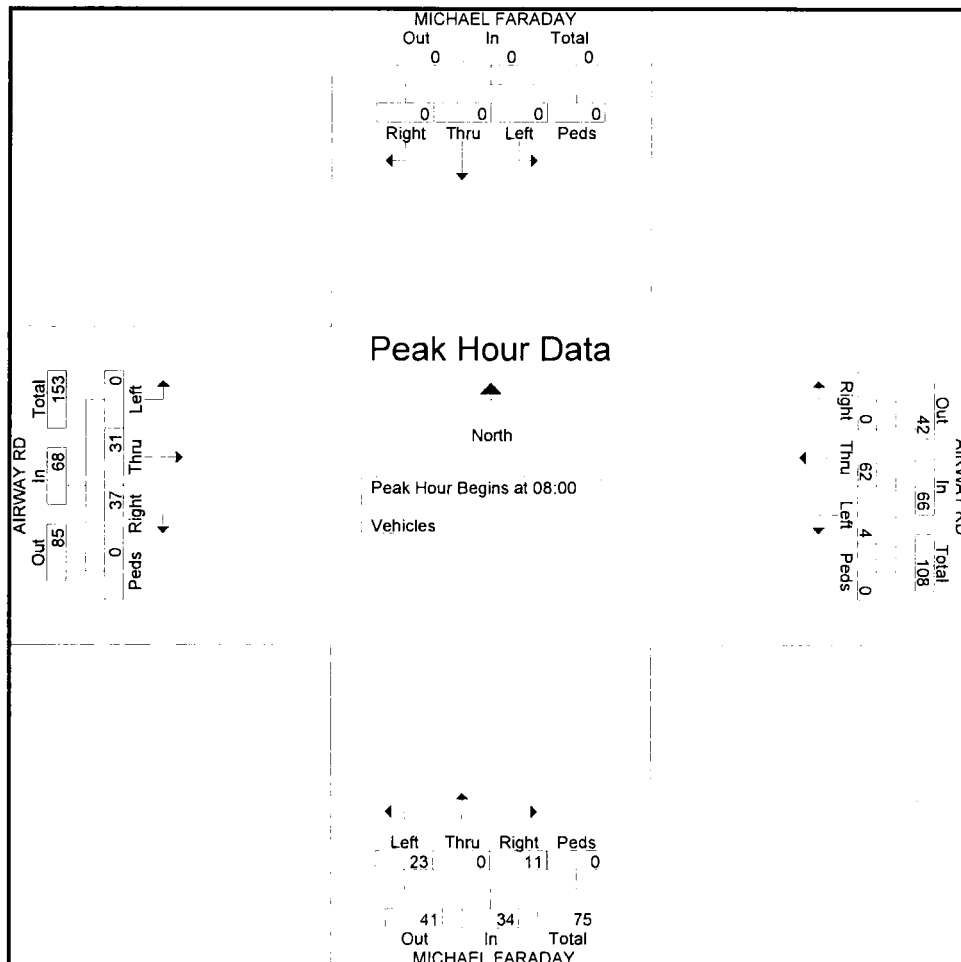
Start Time	PASAO DE LAS AMERICAS Southbound					AIRWAY RD Westbound					PASAO DE LAS AMERICAS Northbound					AIRWAY RD Eastbound					App. Total	Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 16:15																						
16:15	0	0	0	0	0	6	31	0	0	37	18	0	2	0	20	0	19	5	0	24	81	
16:30	0	0	0	0	0	6	29	0	0	35	23	0	4	0	27	0	13	5	0	18	80	
16:45	0	0	0	0	0	7	30	0	0	37	18	0	3	0	21	0	7	5	0	12	70	
17:00	0	0	0	0	0	7	36	0	0	43	23	0	1	0	24	0	17	9	0	26	93	
Total Volume	0	0	0	0	0	26	126	0	0	152	82	0	10	0	92	0	56	24	0	80	324	
% App. Total	0	0	0	0	0	17.1	82.9	0	0	89.1	89.1	0	10.9	0		0	70	30	0			
PHF	.000	.000	.000	.000	.000	.929	.875	.000	.000	.884	.891	.000	.625	.000	.852	.000	.737	.667	.000	.769	.871	



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File Name : 8021.10.MICHAEL FARADAY.AIRWAY RD
 Site Code : 00000000
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MICHAEL FARADAY Southbound						AIRWAY RD Westbound					MICHAEL FARADAY Northbound					AIRWAY RD Eastbound					Int. Total
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	0	0	0	0	1	17	0	0	18	3	0	3	0	6	0	10	10	0	20	44
08:15	0	0	0	0	0	0	9	0	0	9	3	0	3	0	6	0	8	12	0	20	35
08:30	0	0	0	0	0	2	14	0	0	16	6	0	2	0	8	0	8	3	0	11	35
08:45	0	0	0	0	0	1	22	0	0	23	11	0	3	0	14	0	5	12	0	17	54
Total Volume	0	0	0	0	0	4	62	0	0	66	23	0	11	0	34	0	31	37	0	68	168
% App. Total	0	0	0	0	0	6.1	93.9	0	0	67.6	32.4	0	32.4	0	0	45.6	54.4	0	0	0	0
PHF	.000	.000	.000	.000	.000	.500	.705	.000	.000	.717	.523	.000	.917	.000	.607	.000	.775	.771	.000	.850	.778

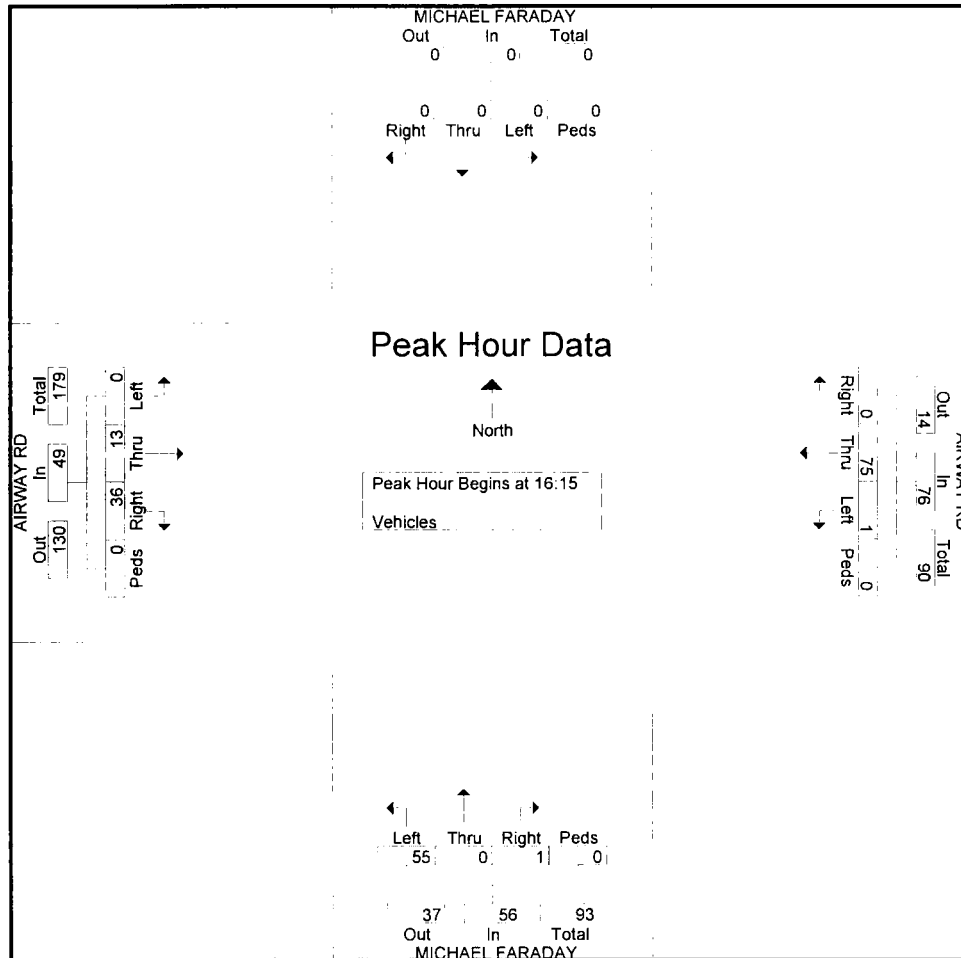


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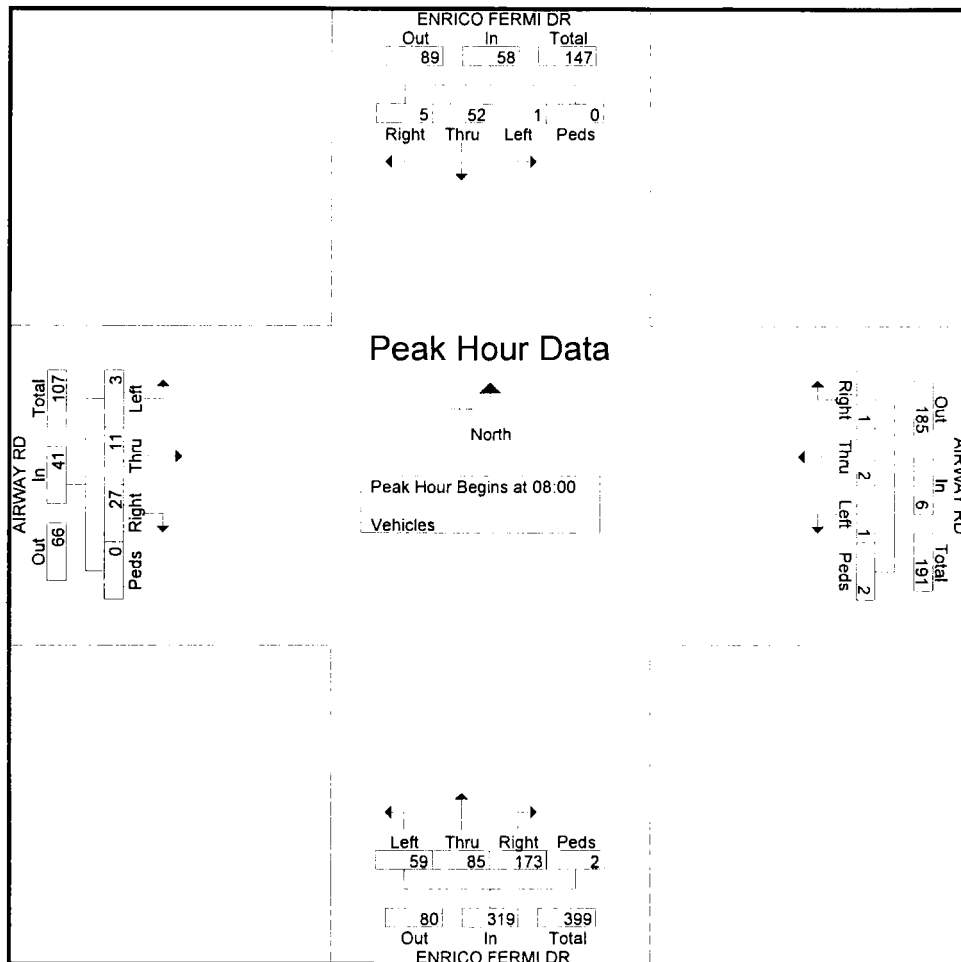
MICHAEL FARADAY Southbound						AIRWAY RD Westbound					MICHAEL FARADAY Northbound					AIRWAY RD Eastbound					Int. Total
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	0	0	0	0	0	1	22	0	0	23	8	0	0	0	8	0	4	11	0	15	46
16:30	0	0	0	0	0	0	19	0	0	19	10	0	1	0	11	0	3	10	0	13	43
16:45	0	0	0	0	0	0	19	0	0	19	13	0	0	0	13	0	1	5	0	6	38
17:00	0	0	0	0	0	0	15	0	0	15	24	0	0	0	24	0	5	10	0	15	54
Total Volume	0	0	0	0	0	1	75	0	0	76	55	0	1	0	56	0	13	36	0	49	181
% App. Total	0	0	0	0	0	1.3	98.7	0	0	98.2	0	1.8	0	0	0	0	26.5	73.5	0	0	0
PHF	.000	.000	.000	.000	.000	.250	.852	.000	.000	.826	.573	.000	.250	.000	.583	.000	.650	.818	.000	.817	.838



True Count
3401 First Ave #123
San Diego, CA 92103

File Name : 8021.09.ENRICO FERMI DR.AIRWAY RD
Site Code : 00000000
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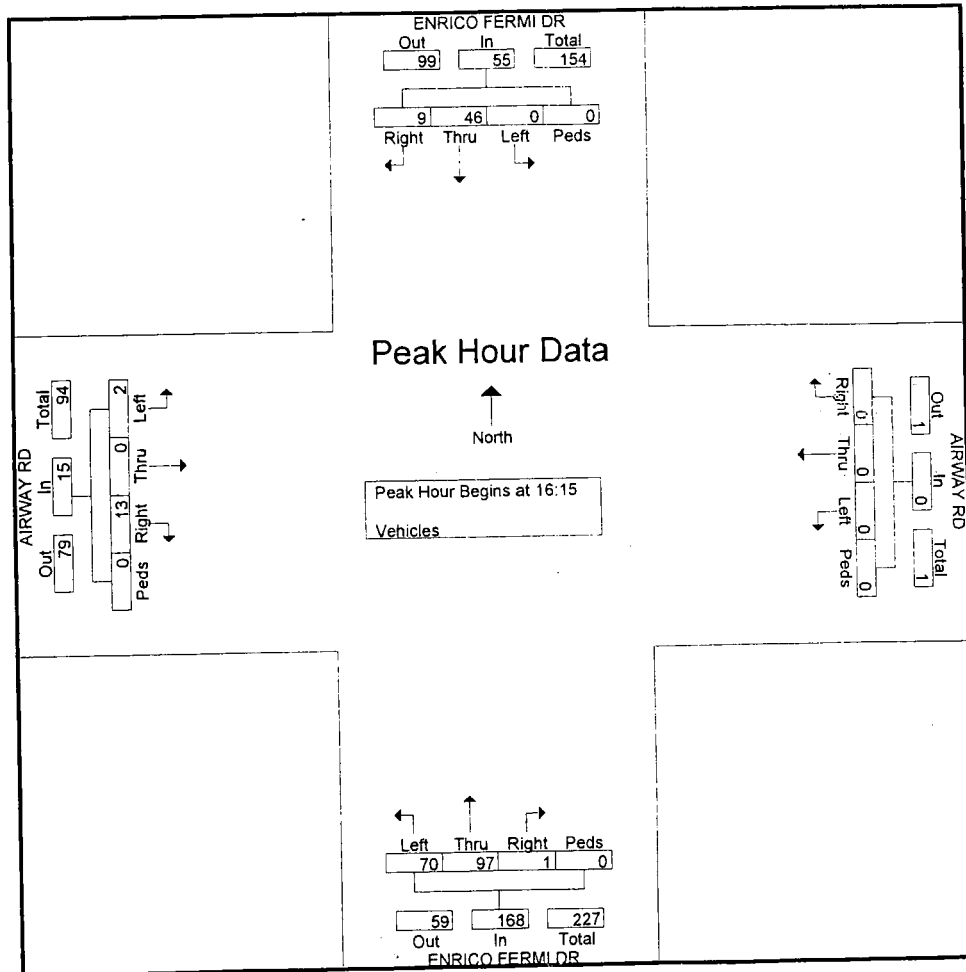
	ENRICO FERMI DR Southbound					AIRWAY RD Westbound					ENRICO FERMI DR Northbound					AIRWAY RD Eastbound					Int. Total
	Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	1	15	1	0	17	0	1	0	0	1	14	15	23	0	52	0	7	5	0	12	82
08:15	0	13	0	0	13	0	1	1	0	2	11	21	49	0	81	1	4	5	0	10	106
08:30	0	8	2	0	10	0	0	0	0	0	13	30	39	0	82	1	0	11	0	12	104
08:45	0	16	2	0	18	1	0	0	2	3	21	19	62	2	104	1	0	6	0	7	132
Total Volume	1	52	5	0	58	1	2	1	2	6	59	85	173	2	319	3	11	27	0	41	424
% App. Total	1.7	89.7	8.6	0		16.7	33.3	16.7	33.3		18.5	26.6	54.2	0.6		7.3	26.8	65.9	0		
PHF	.250	.813	.625	.000	.806	.250	.500	.250	.250	.500	.702	.708	.698	.250	.767	.750	.393	.614	.000	.854	.803



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File Name : 8021.09.ENRICO FERMI DR.AIRWAY RD
Site Code : 00000000
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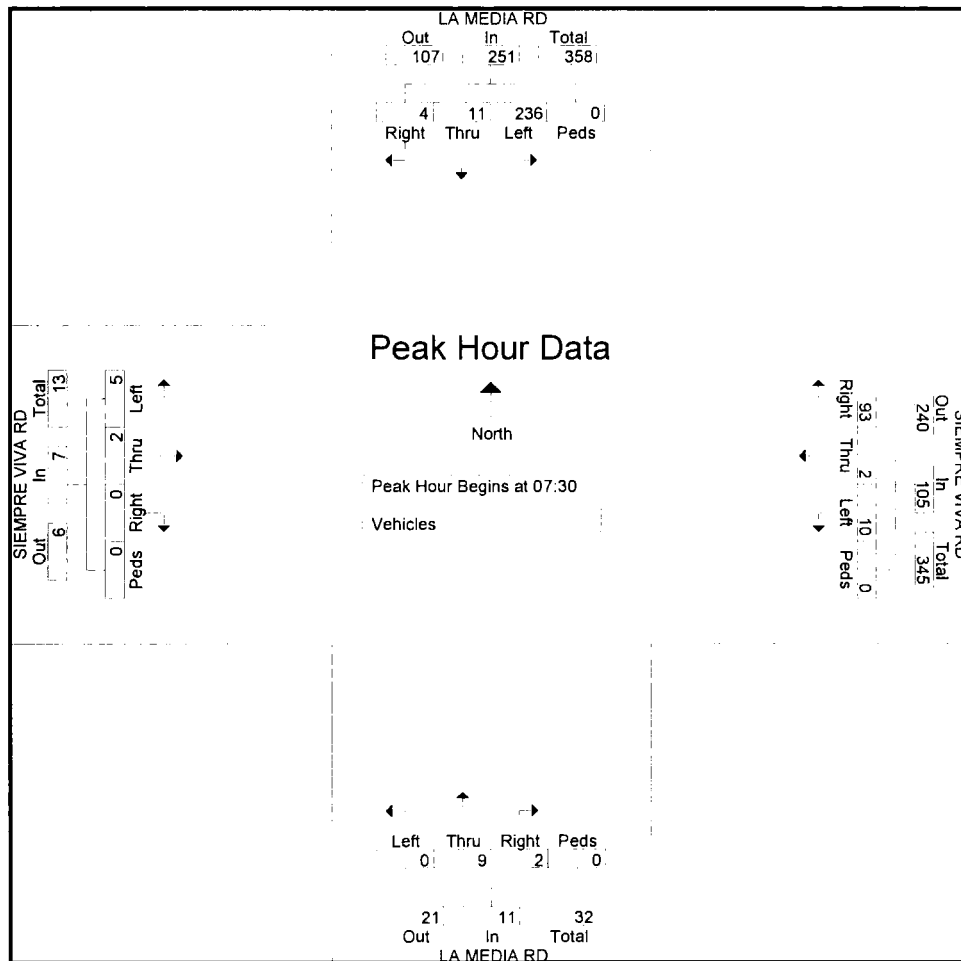
	ENRICO FERMI DR Southbound					AIRWAY RD Westbound					ENRICO FERMI DR Northbound					AIRWAY RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	InL Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	0	12	3	0	15	0	0	0	0	0	20	26	0	0	46	2	0	3	0	5	66
16:30	0	8	2	0	10	0	0	0	0	0	18	23	0	0	41	0	0	3	0	3	54
16:45	0	10	1	0	11	0	0	0	0	0	19	13	0	0	32	0	0	2	0	2	45
17:00	0	16	3	0	19	0	0	0	0	0	13	35	1	0	49	0	0	5	0	5	73
Total Volume	0	46	9	0	55	0	0	0	0	0	70	97	1	0	168	2	0	13	0	15	238
% App. Total	0	83.6	16.4	0		0	0	0	0	0	41.7	57.7	0.6	0		13.3	0	86.7	0		
PHF	.000	.719	.750	.000	.724	.000	.000	.000	.000	.000	.875	.693	.250	.000	.857	.250	.000	.650	.000	.750	.815



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File Name : 8021.02.LA MEDIA RD.SIEMPRE VIVA RD
Site Code : 00000000
Start Date : 3/4/2008
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	LA MEDIA RD Southbound					SIEMPRE VIVA RD Westbound					LA MEDIA RD Northbound					SIEMPRE VIVA RD Eastbound					Int. Total
	Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	62	4	2	0	68	1	0	22	0	23	0	2	1	0	3	0	1	0	0	1	95
07:45	66	1	0	0	67	2	0	19	0	21	0	2	0	0	2	2	0	0	0	2	92
08:00	60	5	0	0	65	7	0	29	0	36	0	4	1	0	5	2	0	0	0	2	108
08:15	48	1	2	0	51	0	2	23	0	25	0	1	0	0	1	1	1	0	0	2	79
Total Volume	236	11	4	0	251	10	2	93	0	105	0	9	2	0	11	5	2	0	0	7	374
% App. Total	94	4.4	1.6	0		9.5	1.9	88.6	0		0	81.8	18.2	0		71.4	28.6	0	0		
PHF	.894	.550	.500	.000	.923	.357	.250	.802	.000	.729	.000	.563	.500	.000	.550	.625	.500	.000	.000	.875	.866

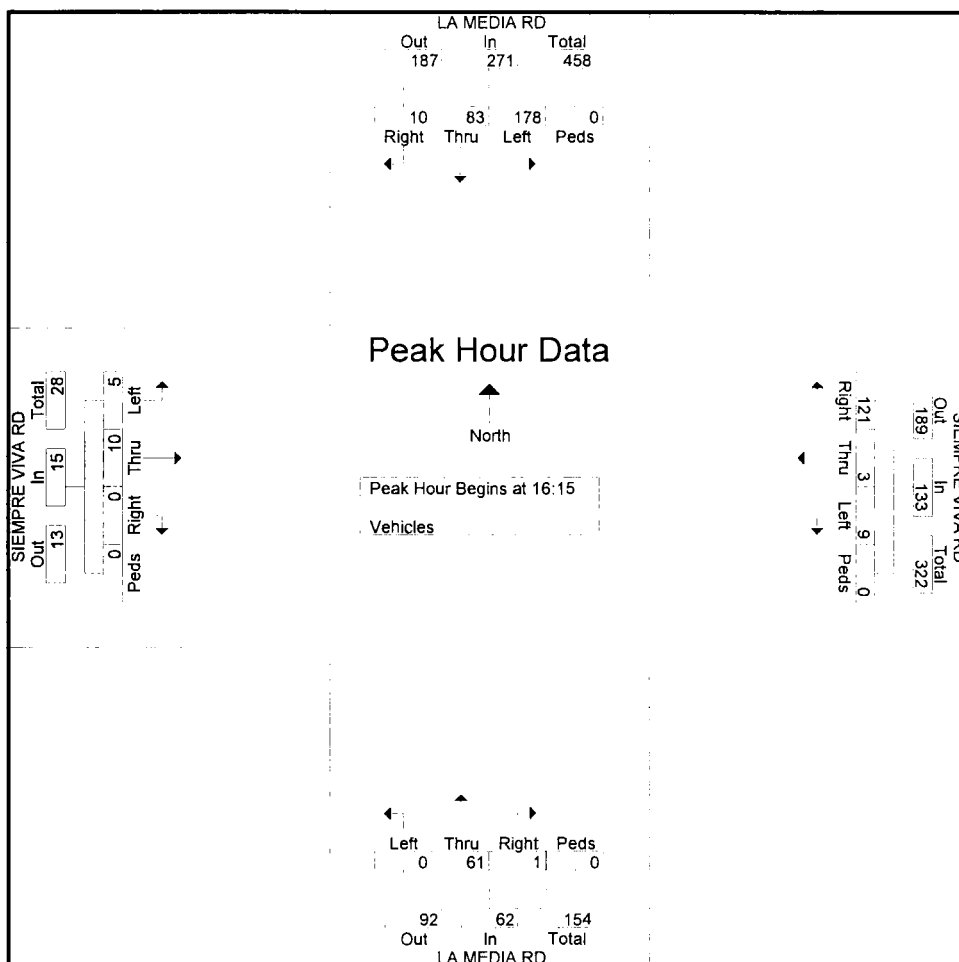


True Count

3401 First Ave #123
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File Name : 8021.02.LA MEDIA RD.SIEMPRE VIVA RD
Site Code : 00000000
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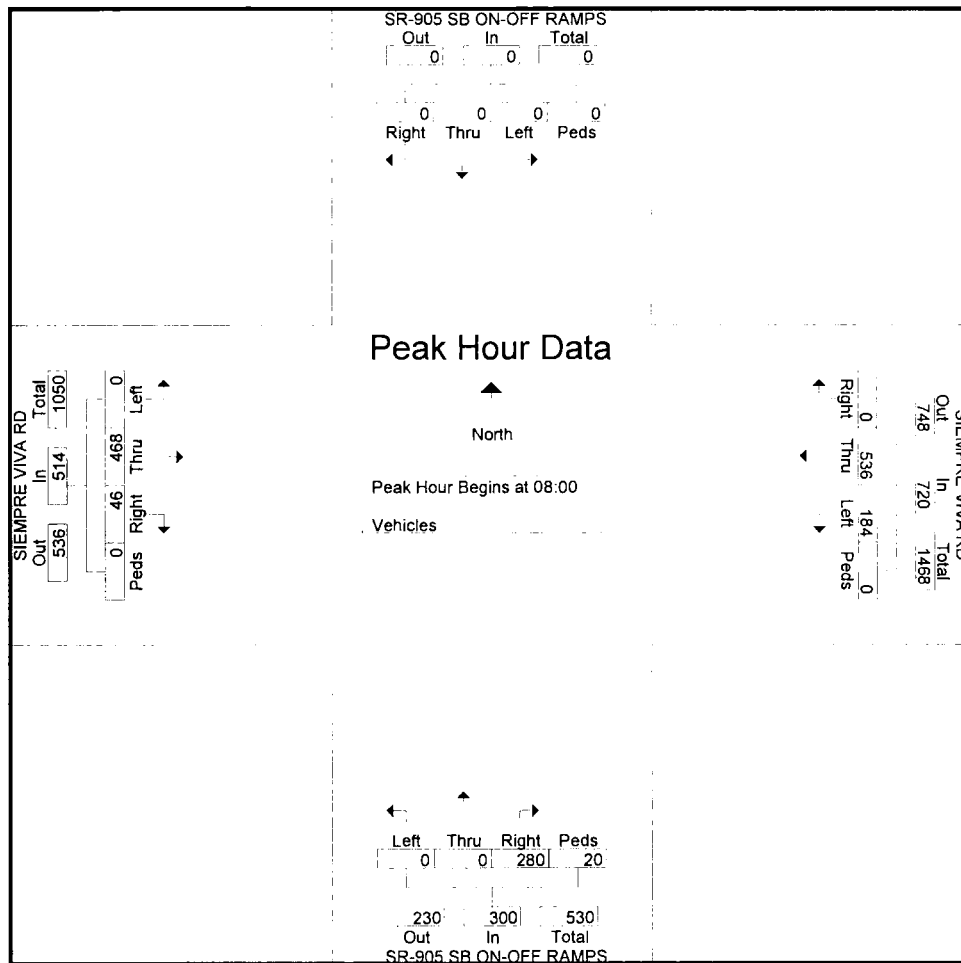
	LA MEDIA RD Southbound					SIEMPRE VIVA RD Westbound					LA MEDIA RD Northbound					SIEMPRE VIVA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	51	24	4	0	79	4	2	28	0	34	0	9	0	0	9	1	2	0	0	3	125
16:30	42	19	2	0	63	2	0	27	0	29	0	9	0	0	9	1	1	0	0	2	103
16:45	46	20	1	0	67	2	1	23	0	26	0	6	0	0	6	1	5	0	0	6	105
17:00	39	20	3	0	62	1	0	43	0	44	0	37	1	0	38	2	2	0	0	4	148
Total Volume	178	83	10	0	271	9	3	121	0	133	0	61	1	0	62	5	10	0	0	15	481
% App. Total	65.7	30.6	3.7	0		6.8	2.3	91	0		0	98.4	1.6	0		33.3	66.7	0	0		
PHF	.873	.865	.625	.000	.858	.563	.375	.703	.000	.756	.000	.412	.250	.000	.408	.625	.500	.000	.000	.625	.813



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File Name : 8021.03.SR-905 SB ON-OFF RAMPS.SIEMPRE VIVA RD
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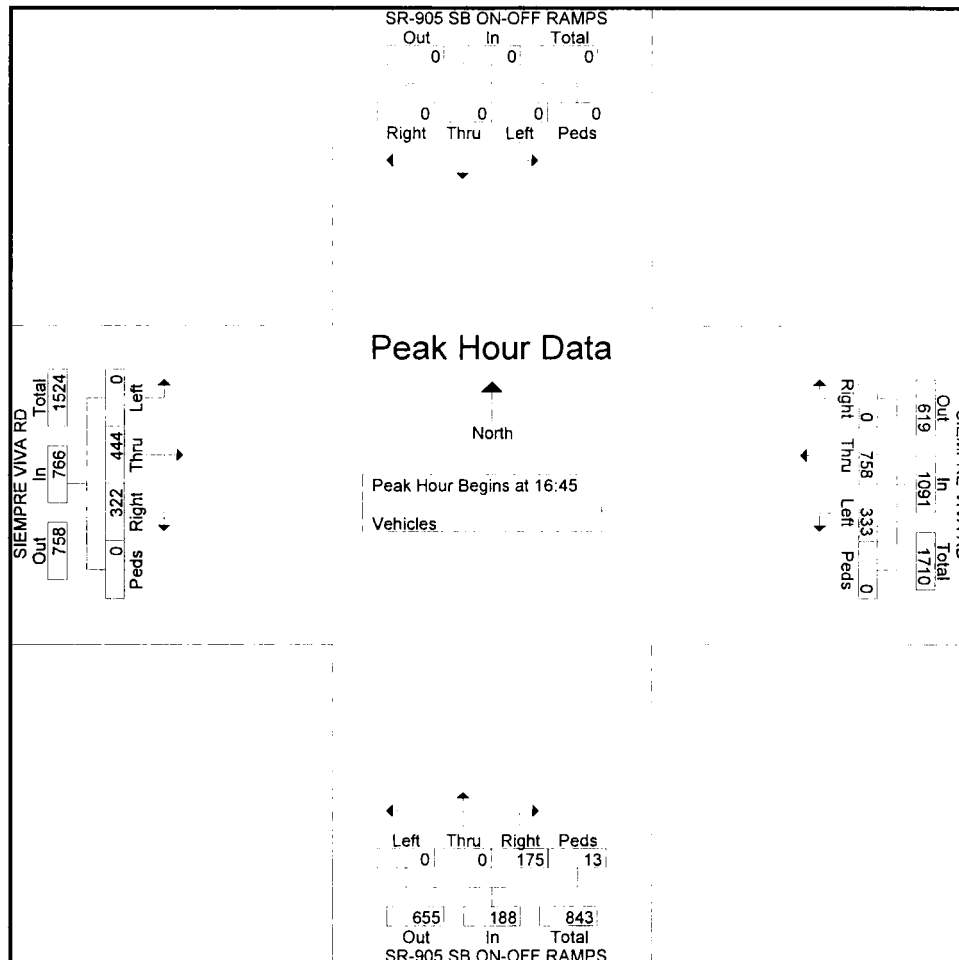
	SR-905 SB ON-OFF RAMPS Southbound					SIEMPRE VIVA RD Westbound					SR-905 SB ON-OFF RAMPS Northbound					SIEMPRE VIVA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	0	0	0	0	20	132	0	0	152	0	0	76	8	84	0	111	10	0	121	357
08:15	0	0	0	0	0	31	141	0	0	172	0	0	79	4	83	0	127	11	0	138	393
08:30	0	0	0	0	0	48	129	0	0	177	0	0	57	3	60	0	115	9	0	124	361
08:45	0	0	0	0	0	85	134	0	0	219	0	0	68	5	73	0	115	16	0	131	423
Total Volume	0	0	0	0	0	184	536	0	0	720	0	0	280	20	300	0	468	46	0	514	1534
% App. Total	0	0	0	0	0	25.6	74.4	0	0	0	0	0	93.3	6.7	0	0	91.1	8.9	0	0	0
PHF	.000	.000	.000	.000	.000	.541	.950	.000	.000	.822	.000	.000	.886	.625	.893	.000	.921	.719	.000	.931	.907



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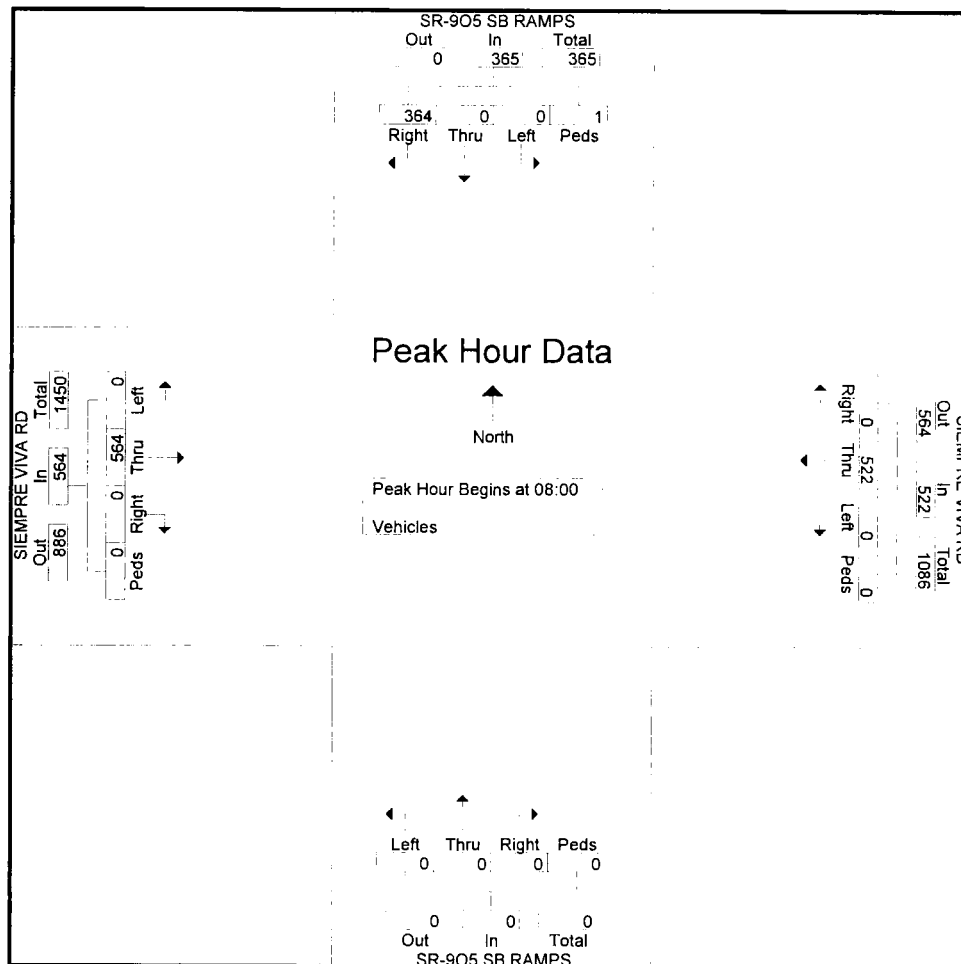
SR-905 SB ON-OFF RAMPS Southbound						SIEMPRE VIVA RD Westbound					SR-905 SB ON-OFF RAMPS Northbound					SIEMPRE VIVA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	0	0	0	0	0	48	168	0	0	216	0	0	43	3	46	0	98	62	0	160	422
17:00	0	0	0	0	0	104	207	0	0	311	0	0	41	4	45	0	145	102	0	247	603
17:15	0	0	0	0	0	90	188	0	0	278	0	0	50	5	55	0	103	84	0	187	520
17:30	0	0	0	0	0	91	195	0	0	286	0	0	41	1	42	0	98	74	0	172	500
Total Volume	0	0	0	0	0	333	758	0	0	1091	0	0	175	13	188	0	444	322	0	766	2045
% App. Total	0	0	0	0	0	30.5	69.5	0	0	87.7	0	0	93.1	6.9	85.5	0	58	42	0	77.5	84.8
PHF	.000	.000	.000	.000	.000	.800	.915	.000	.000	.877	.000	.000	.875	.650	.855	.000	.766	.789	.000	.775	.848



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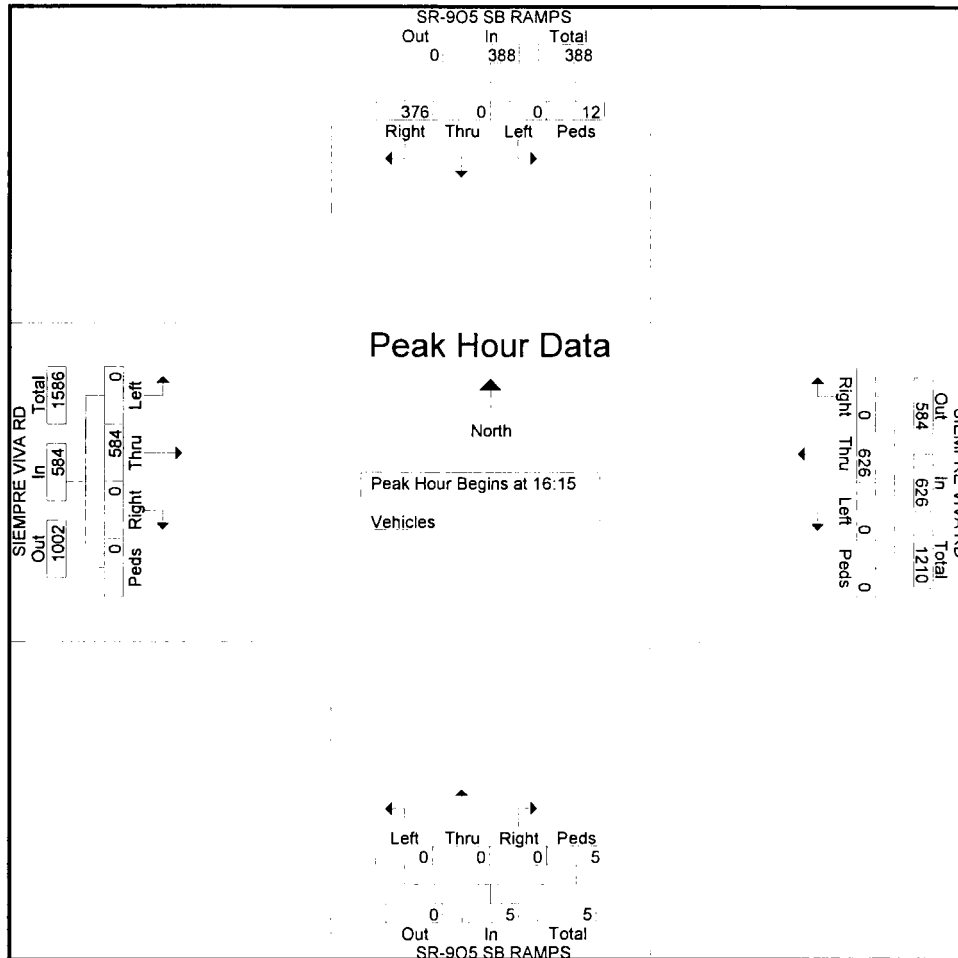
SR-905 SB RAMPS Southbound						SIEMPRE VIVA RD Westbound					SR-905 SB RAMPS Northbound					SIEMPRE VIVA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	0	80	0	80	0	95	0	0	95	0	0	0	0	0	0	162	0	0	162	337
08:15	0	0	106	0	106	0	98	0	0	98	0	0	0	0	0	0	126	0	0	126	330
08:30	0	0	71	1	72	0	152	0	0	152	0	0	0	0	0	0	143	0	0	143	367
08:45	0	0	107	0	107	0	177	0	0	177	0	0	0	0	0	0	133	0	0	133	417
Total Volume	0	0	364	1	365	0	522	0	0	522	0	0	0	0	0	0	564	0	0	564	1451
% App. Total	0	0	99.7	0.3		0	100	0	0		0	0	0	0		0	100	0	0		
PHF	.000	.000	.850	.250	.853	.000	.737	.000	.000	.737	.000	.000	.000	.000	.000	.000	.870	.000	.000	.870	.870



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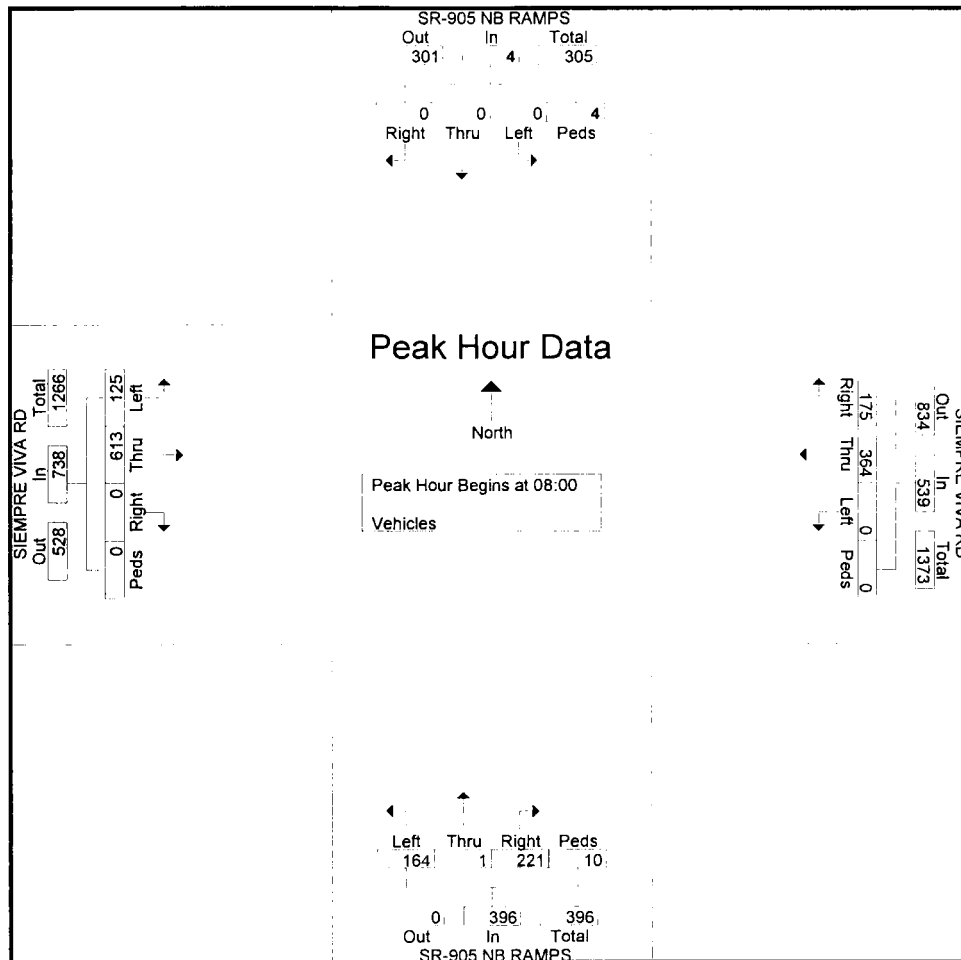
	SR-905 SB RAMPS					SIEMPRE VIVA RD					SR-905 SB RAMPS					SIEMPRE VIVA RD					
	Southbound					Westbound					Northbound					Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	0	0	92	3	95	0	147	0	0	147	0	0	0	4	4	0	149	0	0	149	395
16:30	0	0	100	4	104	0	149	0	0	149	0	0	0	0	0	0	134	0	0	134	387
16:45	0	0	88	2	90	0	153	0	0	153	0	0	0	0	0	0	149	0	0	149	392
17:00	0	0	96	3	99	0	177	0	0	177	0	0	0	1	1	0	152	0	0	152	429
Total Volume	0	0	376	12	388	0	626	0	0	626	0	0	0	5	5	0	584	0	0	584	1603
% App. Total	0	0	96.9	3.1		0	100	0	0		0	0	0	100		0	100	0	0		
PHF	.000	.000	.940	.750	.933	.000	.884	.000	.000	.884	.000	.000	.000	.313	.313	.000	.961	.000	.000	.961	.934



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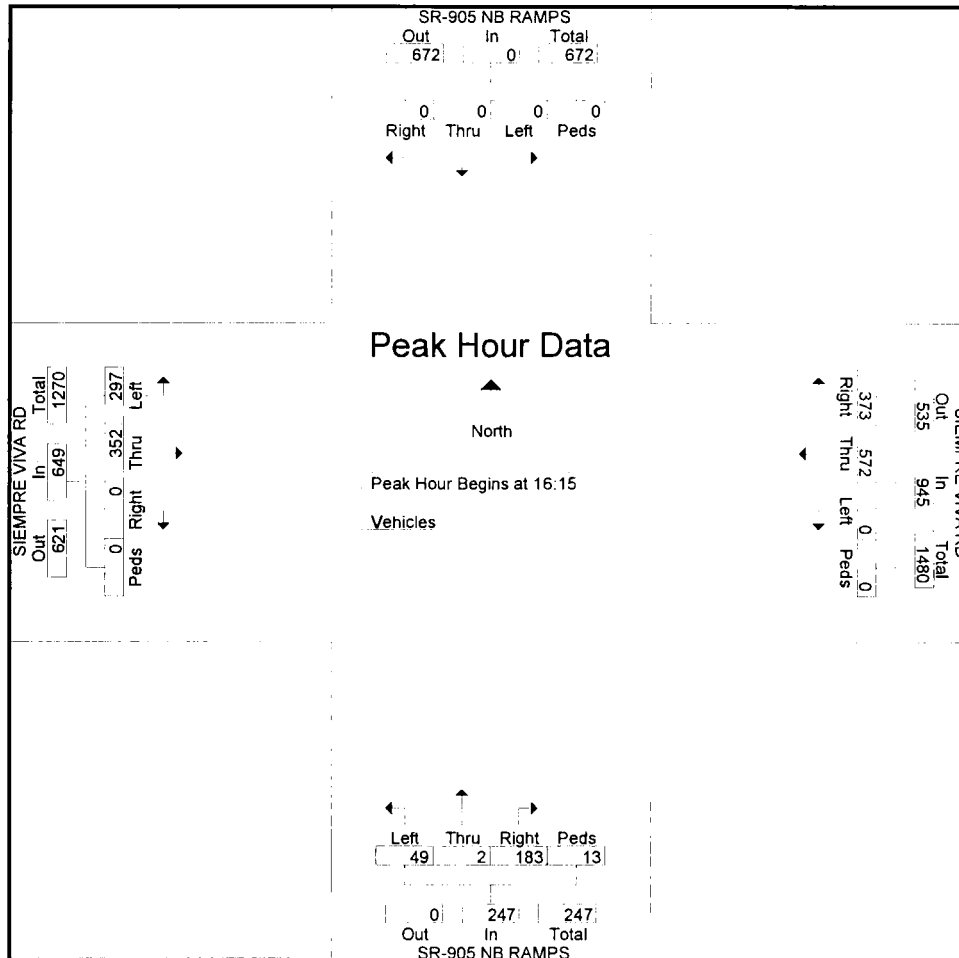
SR-905 NB RAMPS Southbound						SIEMPRE VIVA RD Westbound					SR-905 NB RAMPS Northbound					SIEMPRE VIVA RD Eastbound						Int. Total
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 08:00																						
08:00	0	0	0	0	0	0	90	46	0	136	49	1	66	1	117	34	149	0	0	183	436	
08:15	0	0	0	2	2	0	82	48	0	130	47	0	57	3	107	28	171	0	0	199	438	
08:30	0	0	0	1	1	0	103	42	0	145	33	0	41	1	75	31	140	0	0	171	392	
08:45	0	0	0	1	1	0	89	39	0	128	35	0	57	5	97	32	153	0	0	185	411	
Total Volume	0	0	0	4	4	0	364	175	0	539	164	1	221	10	396	125	613	0	0	738	1677	
% App. Total	0	0	0	100		0	67.5	32.5	0		41.4	0.3	55.8	2.5		16.9	83.1	0	0			
PHF	.000	.000	.000	.500	.500	.000	.883	.911	.000	.929	.837	.250	.837	.500	.846	.919	.896	.000	.000	.927	.957	



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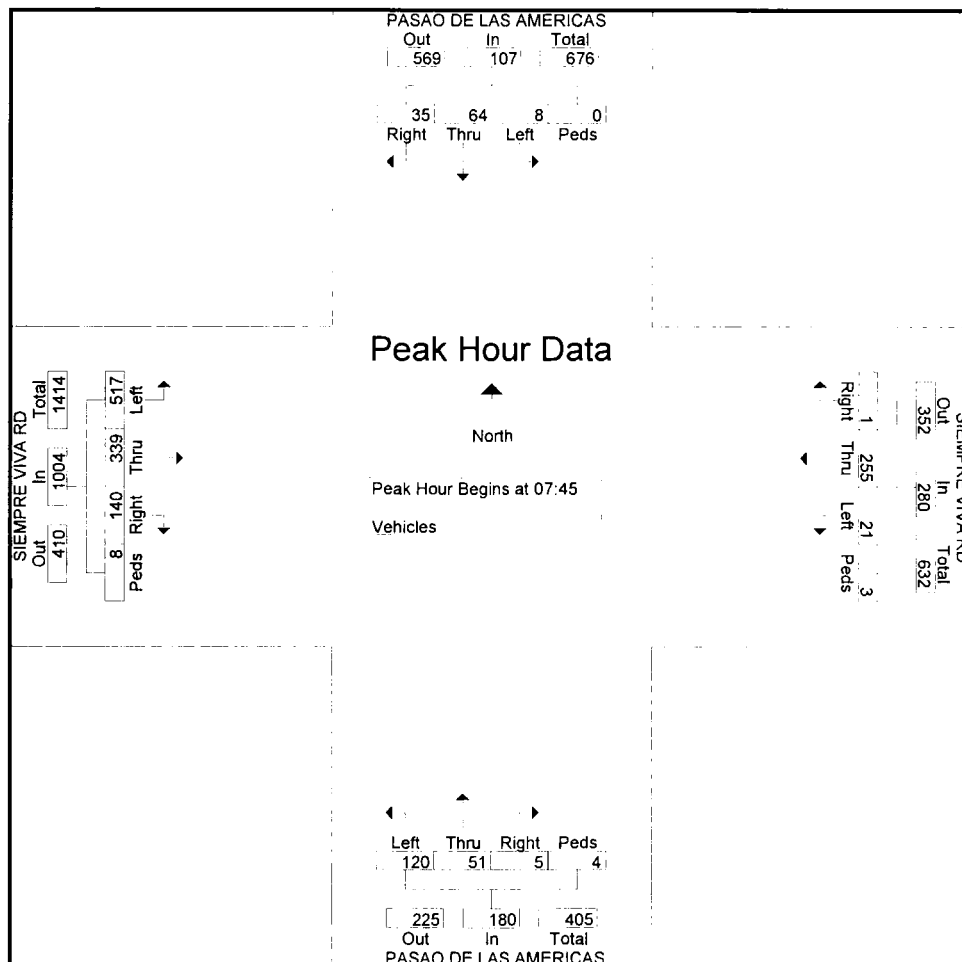
	SR-905 NB RAMPS Southbound					SIEMPRE VIVA RD Westbound					SR-905 NB RAMPS Northbound					SIEMPRE VIVA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	0	0	0	0	0	0	138	86	0	224	13	2	41	0	56	59	100	0	0	159	439
16:30	0	0	0	0	0	0	133	89	0	222	8	0	58	2	68	72	99	0	0	171	461
16:45	0	0	0	0	0	0	149	99	0	248	15	0	47	4	66	62	74	0	0	136	450
17:00	0	0	0	0	0	0	152	99	0	251	13	0	37	7	57	104	79	0	0	183	491
Total Volume	0	0	0	0	0	0	572	373	0	945	49	2	183	13	247	297	352	0	0	649	1841
% App. Total	0	0	0	0	0	0	60.5	39.5	0		19.8	0.8	74.1	5.3		45.8	54.2	0	0		
PHF	.000	.000	.000	.000	.000	.000	.941	.942	.000	.941	.817	.250	.789	.464	.908	.714	.880	.000	.000	.887	.937



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File Name : 8021.06.PASAO DE LAS AMERICAS.SIEMPRE VIVA RD
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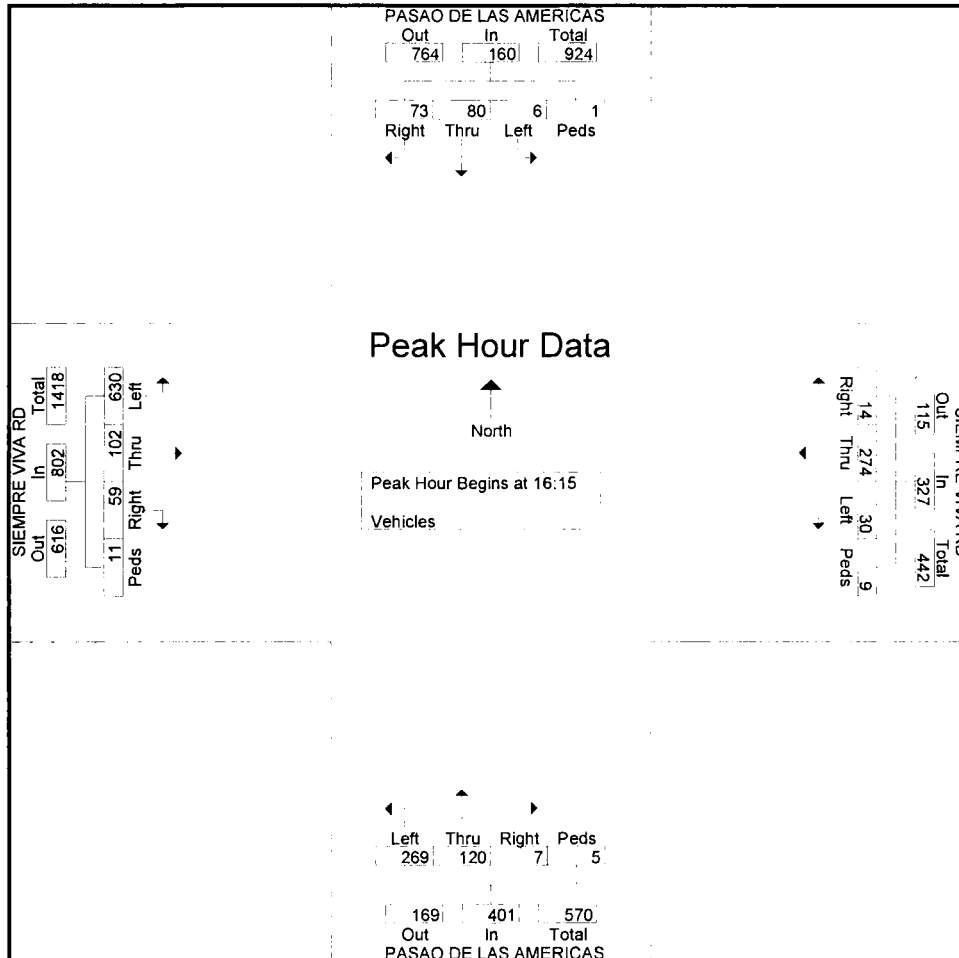
	PASAO DE LAS AMERICAS Southbound					SIEMPRE VIVA RD Westbound					PASAO DE LAS AMERICAS Northbound					SIEMPRE VIVA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	1	11	10	0	22	4	80	0	0	84	14	15	0	0	29	134	101	33	4	272	407
08:00	1	19	14	0	34	4	59	0	3	66	26	10	1	1	38	128	86	39	0	253	391
08:15	3	16	7	0	26	8	41	1	0	50	29	8	3	2	42	109	75	35	4	223	341
08:30	3	18	4	0	25	5	75	0	0	80	51	18	1	1	71	146	77	33	0	256	432
Total Volume	8	64	35	0	107	21	255	1	3	280	120	51	5	4	180	517	339	140	8	1004	1571
% App. Total	7.5	59.8	32.7	0		7.5	91.1	0.4	1.1		66.7	28.3	2.8	2.2		51.5	33.8	13.9	0.8		
PHF	.667	.842	.625	.000	.787	.656	.797	.250	.250	.833	.588	.708	.417	.500	.634	.885	.839	.897	.500	.923	.909



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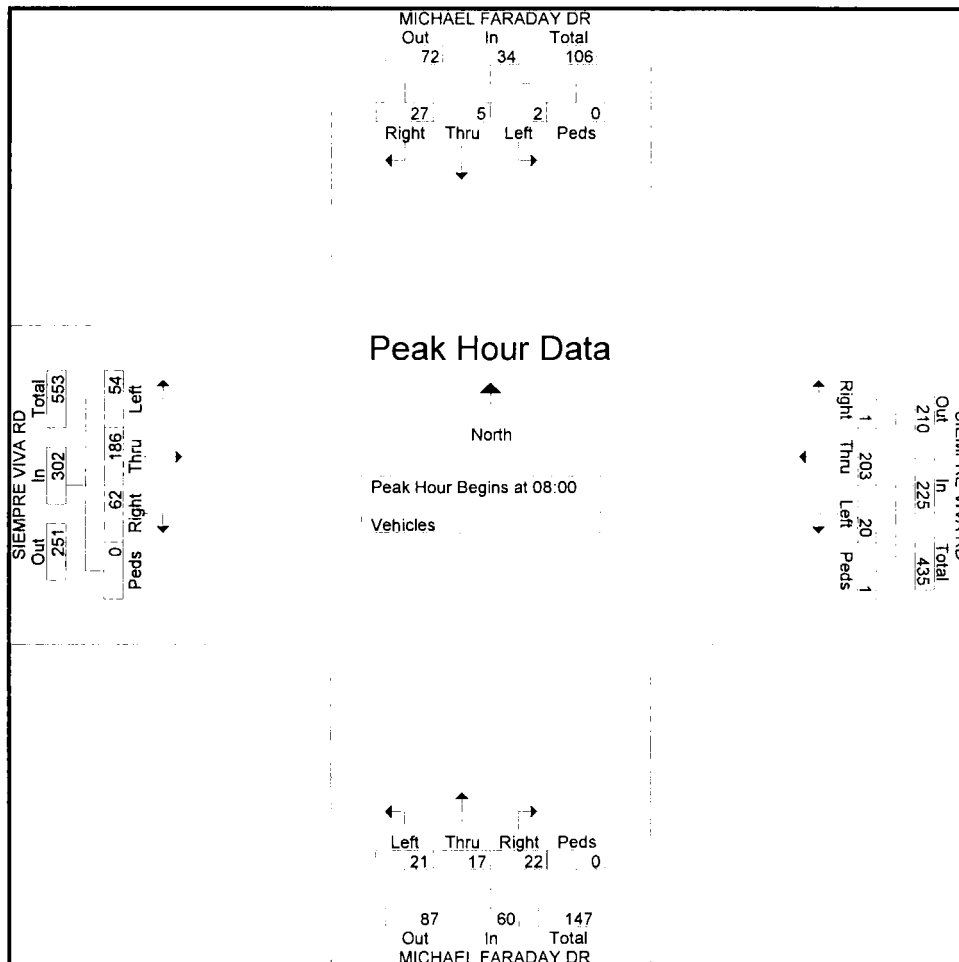
	PASAO DE LAS AMERICAS Southbound					SIEMPRE VIVA RD Westbound					PASAO DE LAS AMERICAS Northbound					SIEMPRE VIVA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	0	23	8	0	31	5	62	5	1	73	66	23	2	0	91	180	27	13	4	224	419
16:30	3	20	23	0	46	8	71	6	1	86	63	42	1	0	106	153	30	21	3	207	445
16:45	2	9	17	1	29	4	56	2	2	64	54	16	1	4	75	137	28	15	0	180	348
17:00	1	28	25	0	54	13	85	1	5	104	86	39	3	1	129	160	17	10	4	191	478
Total Volume	6	80	73	1	160	30	274	14	9	327	269	120	7	5	401	630	102	59	11	802	1690
% App. Total	3.8	50	45.6	0.6		9.2	83.8	4.3	2.8		67.1	29.9	1.7	1.2		78.6	12.7	7.4	1.4		
PHF	.500	.714	.730	.250	.741	.577	.806	.583	.450	.786	.782	.714	.583	.313	.777	.875	.850	.702	.688	.895	.884



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File Name : 8021.07.MICHAEL FARADAY DR.SIEMPRE VIVA RD
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 Start Date : 3/4/2008
 Page No : 2

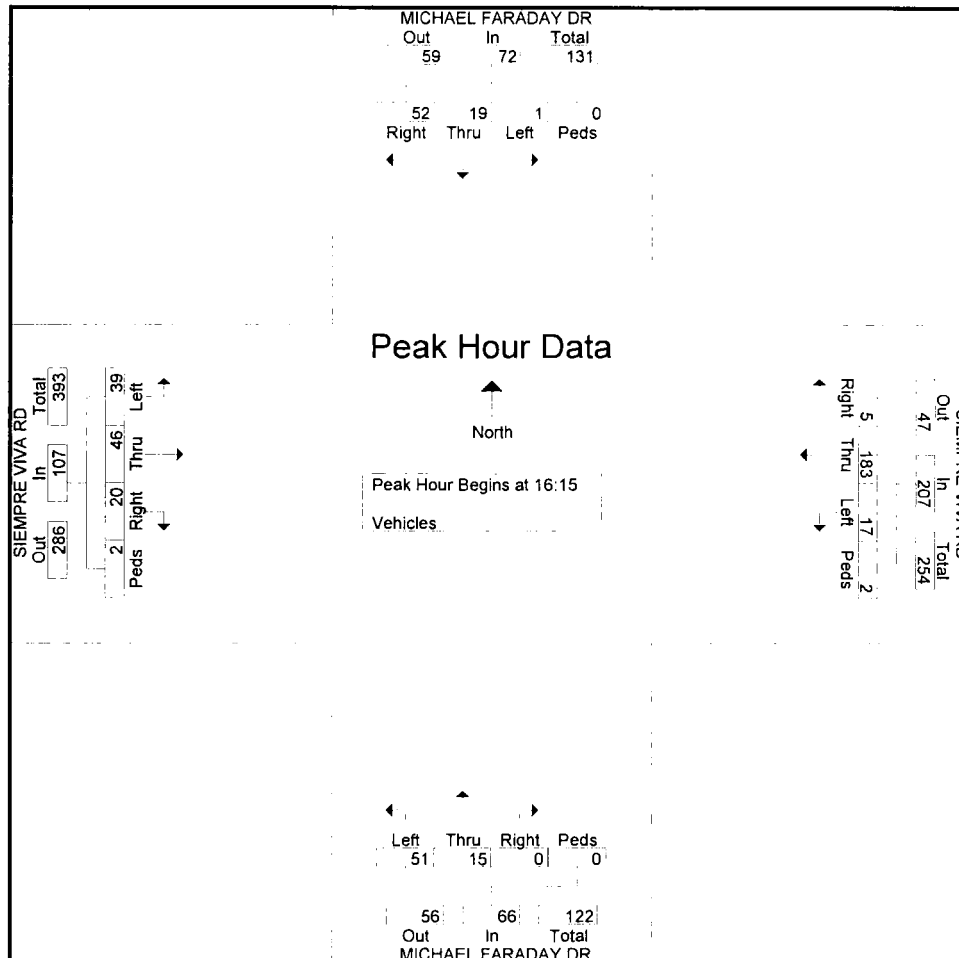
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Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	1	8	0	9	3	41	0	1	45	5	3	7	0	15	15	23	14	0	52	121
08:15	1	0	7	0	8	5	47	0	0	52	5	3	3	0	11	13	64	10	0	87	158
08:30	1	0	4	0	5	6	53	0	0	59	7	5	3	0	15	10	47	20	0	77	156
08:45	0	4	8	0	12	6	62	1	0	69	4	6	9	0	19	16	52	18	0	86	186
Total Volume	2	5	27	0	34	20	203	1	1	225	21	17	22	0	60	54	186	62	0	302	621
% App. Total	5.9	14.7	79.4	0		8.9	90.2	0.4	0.4		35	28.3	36.7	0		17.9	61.6	20.5	0		
PHF	.500	.313	.844	.000	.708	.833	.819	.250	.250	.815	.750	.708	.611	.000	.789	.844	.727	.775	.000	.868	.835



True Count
3401 First Ave #123
San Diego, CA 92103

File Name : 8021.07.MICHAEL FARADAY DR.SIEMPRE VIVA RD
Site Code : 00000000
Start Date : 3/4/2008
Page No : 3

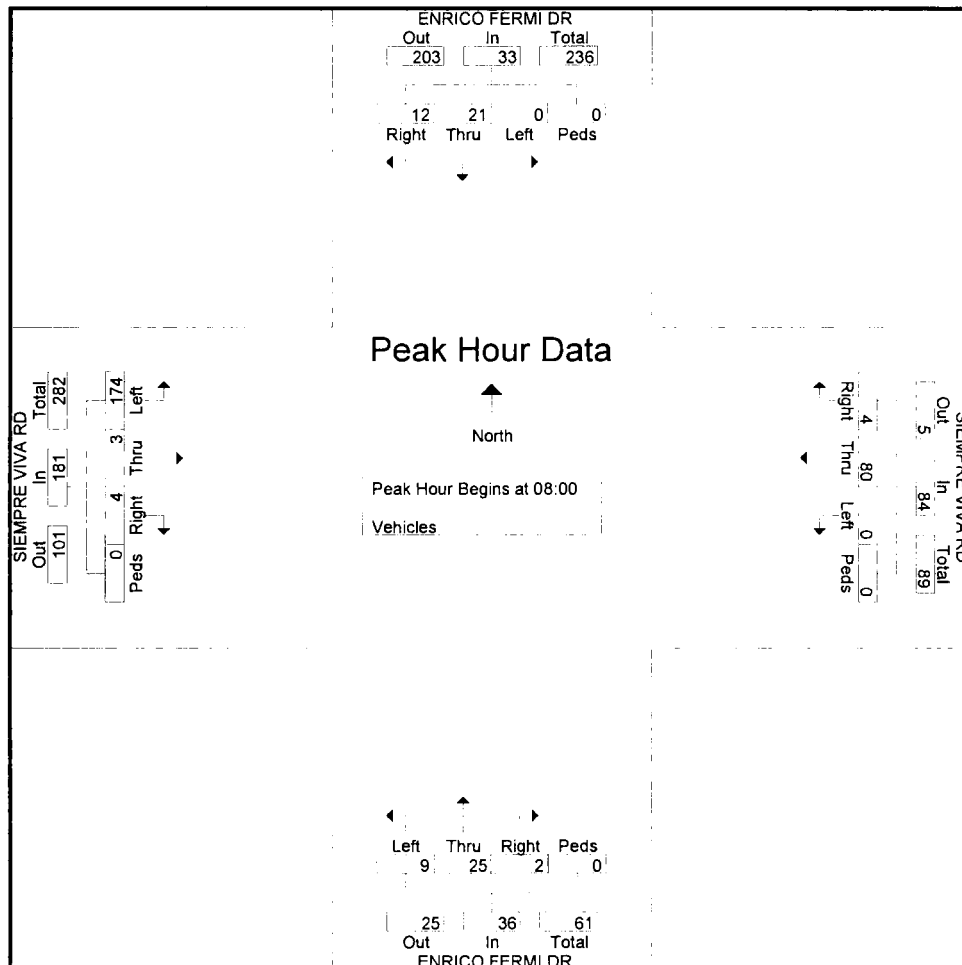
MICHAEL FARADAY DR Southbound						SIEMPRE VIVA RD Westbound					MICHAEL FARADAY DR Northbound					SIEMPRE VIVA RD Eastbound					Int. Total	
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 16:15																						
16:15	1	3	15	0	19	3	56	0	0	59	12	3	0	0	15	14	11	6	0	31	124	
16:30	0	6	17	0	23	2	36	4	0	42	15	6	0	0	21	6	12	6	1	25	111	
16:45	0	0	8	0	8	4	46	0	0	50	10	4	0	0	14	10	11	6	0	27	99	
17:00	0	10	12	0	22	8	45	1	2	56	14	2	0	0	16	9	12	2	1	24	118	
Total Volume	1	19	52	0	72	17	183	5	2	207	51	15	0	0	66	39	46	20	2	107	452	
% App. Total	1.4	26.4	72.2	0		8.2	88.4	2.4	1		77.3	22.7	0	0		36.4	43	18.7	1.9			
PHF	.250	.475	.765	.000	.783	.531	.817	.313	.250	.877	.850	.625	.000	.000	.786	.696	.958	.833	.500	.863	.911	



True Count
3401 First Ave #123
San Diego, CA 92103

File Name : 8021.08.ENRICO FERMI DR.SIEMPRE VIVA RD
Site Code : 00000000
Start Date : 3/4/2008
Page No : 2

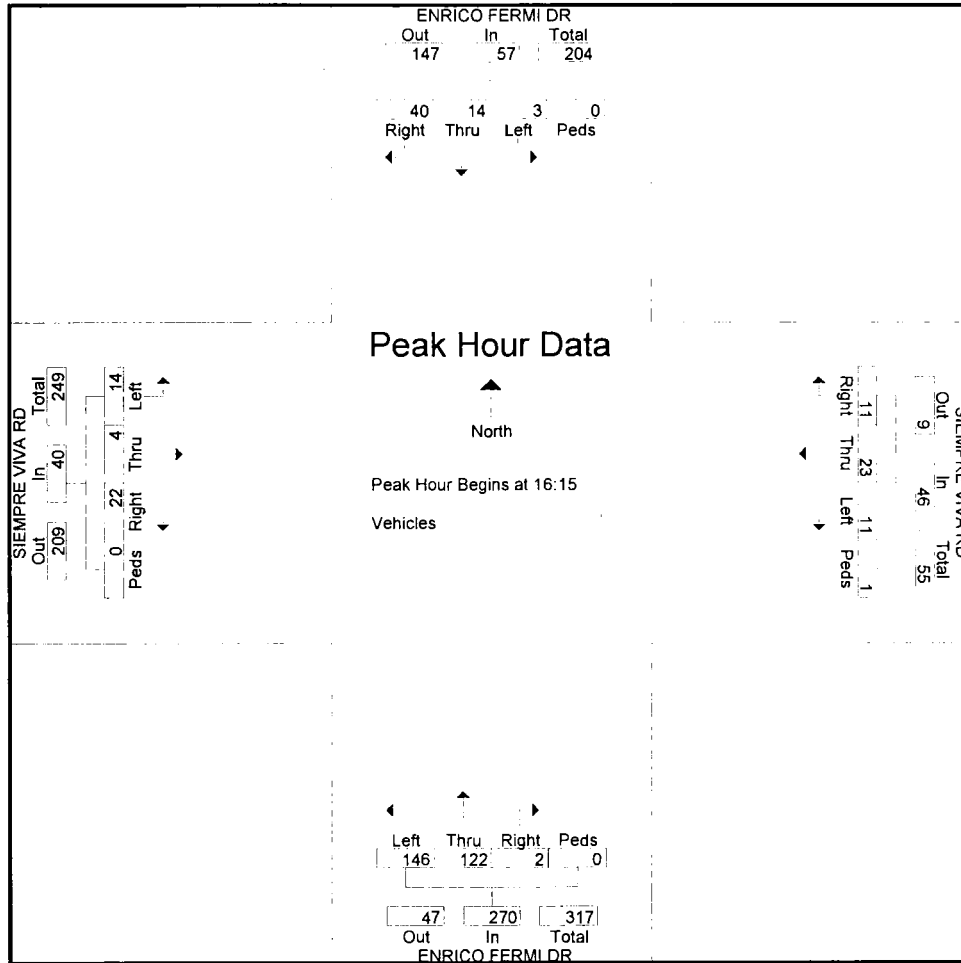
	ENRICO FERMI DR Southbound					SIEMPRE VIVA RD Westbound					ENRICO FERMI DR Northbound					SIEMPRE VIVA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	2	0	0	2	0	28	0	0	28	1	6	0	0	7	28	0	1	0	29	66
08:15	0	1	3	0	4	0	22	1	0	23	2	7	0	0	9	57	1	1	0	59	95
08:30	0	5	3	0	8	0	3	2	0	5	2	8	2	0	12	38	2	0	0	40	65
08:45	0	13	6	0	19	0	27	1	0	28	4	4	0	0	8	51	0	2	0	53	108
Total Volume	0	21	12	0	33	0	80	4	0	84	9	25	2	0	36	174	3	4	0	181	334
% App. Total	0	63.6	36.4	0		0	95.2	4.8	0		25	69.4	5.6	0		96.1	1.7	2.2	0		
PHF	.000	.404	.500	.000	.434	.000	.714	.500	.000	.750	.563	.781	.250	.000	.750	.763	.375	.500	.000	.767	.773



True Count
3401 First Ave #123
San Diego, CA 92103

File Name : 8021.08.ENRICO FERMI DR.SIEMPRE VIVA RD
Site Code : 00000000
Start Date : 3/4/2008
Page No : 3

	ENRICO FERMI DR Southbound					SIEMPRE VIVA RD Westbound					ENRICO FERMI DR Northbound					SIEMPRE VIVA RD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	0	6	3	0	9	1	8	4	1	14	39	28	0	0	67	5	0	5	0	10	100
16:30	1	2	15	0	18	0	3	3	0	6	40	33	0	0	73	3	2	2	0	7	104
16:45	2	4	10	0	16	5	7	2	0	14	31	26	2	0	59	2	2	8	0	12	101
17:00	0	2	12	0	14	5	5	2	0	12	36	35	0	0	71	4	0	7	0	11	108
Total Volume	3	14	40	0	57	11	23	11	1	46	146	122	2	0	270	14	4	22	0	40	413
% App. Total	5.3	24.6	70.2	0		23.9	50	23.9	2.2		54.1	45.2	0.7	0		35	10	55	0		
PHF	.375	.583	.667	.000	.792	.550	.719	.688	.250	.821	.913	.871	.250	.000	.925	.700	.500	.688	.000	.833	.956



Intersection Turning Movement

Prepared by:

TMC Summary of /0

Darnell Associates, Inc.

N-S STREET: Alta Rd

DATE: 10-29-09

LOCATION: County of San Diego

E-W STREET: Calzada De La Fuente

DAY: THURSDAY

PROJECT# 051202

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 0	ER 0	WL 0.5	WT	WR 0.5	TOTAL
6:00 AM		45	5	0	40					0		0	90
6:15 AM		90	4	0	37					1		0	132
6:30 AM		142	3	0	46					2		0	193
6:45 AM		155	6	0	33					0		0	194
7:00 AM		166	5	0	40					0		0	211
7:15 AM		157	5	0	45					1		0	208
7:30 AM		140	4	0	41					0		0	185
7:45 AM		163	2	0	15					1		0	181
8:00 AM													
8:15 AM													
8:30 AM													
8:45 AM													
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
VOLUMES =	0	1058	34	0	297	0	0	0	0	5	0	0	1394
	nb a	nb d		sb a	sb d		eb a	eb d		wb a	nb d		
	1092	1058		297	302		0	34		5	0		
AM Peak Hr Begins at:				630 AM									

PEAK													
VOLUMES =	0	620	19	0	164	0	0	0	0	3	0	0	806
PEAK HR. FACTOR:		0.934			0.891			0.000			0.375		0.955

CONTROL: 1-Way Stop (WB)

Intersection Turning Movement

Prepared by:

TMC Summary of /0

Darnell Associates, Inc.

N-S STREET: Alta Rd

DATE: 10-28-09

LOCATION: County of San Diego

E-W STREET: Calzada De La Fuente

DAY: WEDNESDAY

PROJECT# 051202

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 0	ER 0	WL 0.5	WT	WR 0.5	TOTAL
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM		14	2	0	50					4		1	71
3:15 PM		13	0	0	62					5		1	81
3:30 PM		11	0	0	138					13		0	162
3:45 PM		16	0	0	131					2		0	149
4:00 PM		11	1	0	145					1		0	158
4:15 PM		11	1	0	85					1		0	98
4:30 PM		12	1	0	89					2		0	104
4:45 PM		22	1	0	55					2		0	80
5:00 PM		16	1	0	58					3		1	79
5:15 PM		18	0	0	49					3		0	70
5:30 PM													
5:45 PM													
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL VOLUMES =	NL 0	NT 144	NR 7	SL 0	ST 862	SR 0	EL 0	ET 0	ER 0	WL 36	WT 0	WR 3	TOTAL 1052
--------------------	---------	-----------	---------	---------	-----------	---------	---------	---------	---------	----------	---------	---------	---------------

nb a nb d sb a sb d eb a eb d wb a nb d
 151 147 862 898 0 7 39 0
 PM Peak Hr Begins at: 330 PM

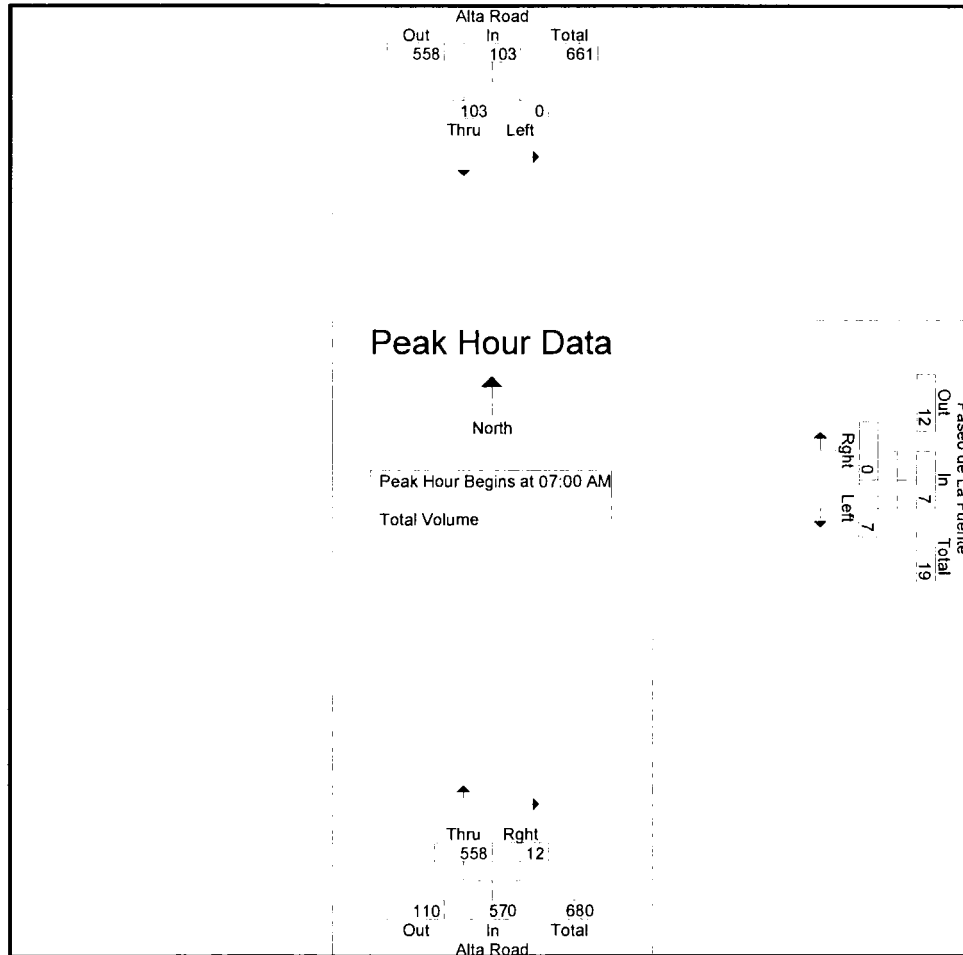
PEAK VOLUMES =	0	49	2	0	499	0	0	0	0	17	0	0	567
PEAK HR. FACTOR:		0.797			0.860			0.000			0.327		0.875

CONTROL: 1-Way Stop (WB)

Counts Unlimited Inc.
25286 Jaclyn Avenue
Moreno Valley, CA 92557
(951) 485-7934

City of San Diego
N/S: Alta Road
E/W: Paseo de La Fuente
Weather: Sunny

File Name : SDOALPFAM
Site Code : 00000000
Start Date : 7/30/2009
Page No : 2

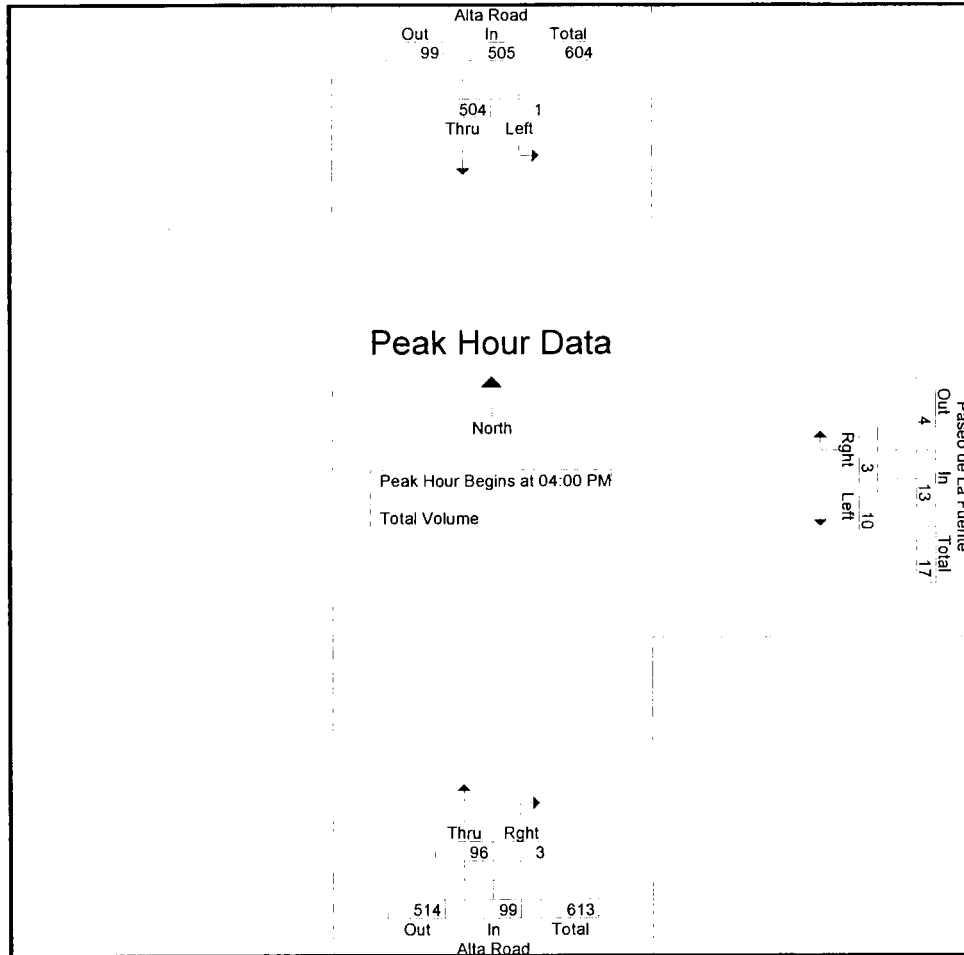


Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM			07:00 AM			07:00 AM		
+0 mins.	0	27	27	3	0	3	131	6	137
+15 mins.	0	36	36	2	0	2	121	1	122
+30 mins.	0	27	27	1	0	1	165	3	168
+45 mins.	0	16	16	1	0	1	141	2	143
Total Volume	0	106	106	7	0	7	558	12	570
% App. Total	0	100		100	0		97.9	2.1	
PHF	.000	.736	.736	.583	.000	.583	.845	.500	.848

City of San Diego
N/S: Alta Road
E/W: Paseo de La Fuente
Weather: Sunny

File Name : SDOALPFP
Site Code : 00000000
Start Date : 7/30/2009
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:45 PM		
+0 mins.	1	165	166	1	2	3	26	0	26
+15 mins.	0	110	110	4	1	5	24	1	25
+30 mins.	0	135	135	1	0	1	25	3	28
+45 mins.	0	94	94	4	0	4	44	5	49
Total Volume	1	504	505	10	3	13	119	9	128
% App. Total	0.2	99.8		76.9	23.1		93	7	
PHF	.250	.764	.761	.625	.375	.650	.676	.450	.653

City & County of San Diego Level of Service Thresholds

TABLE 2
Roadway Classifications, Levels of Service (LOS)
and Average Daily Traffic (ADT)

STREET CLASSIFICATION	LANES	CROSS SECTIONS	LEVEL OF SERVICE				
			A	B	C	D	E
Freeway	8 lanes		60,000	84,000	120,000	140,000	150,000
Freeway	6 lanes		45,000	63,000	90,000	110,000	120,000
Freeway	4 lanes		30,000	42,000	60,000	70,000	80,000
Expressway	6 lanes	102/122	30,000	42,000	60,000	70,000	80,000
Primary Arterial	6 lanes	102/122	25,000	35,000	50,000	55,000	60,000
Major Arterial	6 lanes	102/122	20,000	28,000	40,000	45,000	50,000
Major Arterial	4 lanes	78/98	15,000	21,000	30,000	35,000	40,000
Collector	4 lanes	72/92	10,000	14,000	20,000	25,000	30,000
Collector (no center lane) continuous left-turn lane)	4 lanes 2 lanes	64/84 50/70	5,000	7,000	10,000	13,000	15,000
Collector (no fronting property)	2 lanes	40/60	4,000	5,500	7,500	9,000	10,000
Collector (commercial-industrial fronting)	2 lanes	50/70	2,500	3,500	5,000	6,500	8,000
Collector (multifamily)	2 lanes	40/60	2,500	3,500	5,000	6,500	8,000
Sub-Collector (single-family)	2 lanes	36/56	—	—	2,200	—	—

LEGEND:

XXX/XXX = Curb to curb width (feet)/right-of-way width (feet): based on the City of San Diego Street Design Manual

XX/XXX= Approximate recommended ADT based on the City of San Diego Street Design Manual.

NOTES:

1. The volumes and the average daily level of service listed above are only intended as a general planning guideline.
2. Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.

<p>TABLE 1</p> <p>AVERAGE DAILY VEHICLE TRIPS</p>						
CIRCULATION ELEMENT ROADS		LEVEL OF SERVICE				
CLASS	X-SECTION	A	B	C	D	E
Expressway	126/146	<36,000	<54,000	<70,000	<86,000	<108,000
Prime Arterial	102/122	<22,200	<37,000	<44,600	<50,000	<57,000
Major Road	78/98	<14,800	<24,700	<29,600	<33,400	<37,000
Collector	64/84	<13,700	<22,800	<27,400	<30,800	<34,200
Town Collector	54/74	<3,000	<6,000	<9,500	<13,500	<19,000
Light Collector	40/60	<1,900	<4,100	<7,100	<10,900	<16,200
Rural Collector	40/84	<1,900	<4,100	<7,100	<10,900	<16,200
Rural Light Collector	40/60	<1,900	<4,100	<7,100	<10,900	<16,200
Recreational Parkway	40/100	<1,900	<4,100	<7,100	<10,900	<16,200
Rural Mountain	40/100	<1,900	<4,100	<7,100	<10,900	<16,200
NON – CIRCULATION ELEMENT ROADS		LEVEL OF SERVICE				
CLASS	X-SECTION	A	B	C	D	E
Residential Collector	40/60	*	*	<4,500	*	*
Residential Road	36/56	*	*	<1,500	*	*
Residential Cul-de-sac or Loop Road	32/52	*	*	< 200	*	*
<p>*Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.</p>						

Excerpts for the County of San Diego's Public Facility Element (PFE)

Part XII

Public Facility Element

San Diego County General Plan

Adopted
March 13, 1991
Amended
January 12, 2005
GPA 04-010

Section 1 – Introduction	XII-1-1
Section 2 – Coordination Among Facility Planning, Financing Programs and Land Use Planning	XII-2-1
Section 3 – Parks and Recreation.....	XII-3-1
Section 4 – Transportation	XII-4-1
Section 5 – Flood Control.....	XII-5-1
Section 6 – Solid Waste	XII-6-1
Section 7 – Law Enforcement	XII-7-1
Section 8 – Animal Control.....	XII-8-1
Section 9 – Libraries	XII-9-1
Section 10 – Schools	XII-10-1
Section 11 – Fire Protection and Emergency Services.....	XII-11-1
Section 12 – Wastewater	XII-12-1
Section 13 – Water Provision Systems	XII-13-1
Section 14 – Child Care	XII-14-1
Section 15 – Courts and Jails	XII-15-1
Section 16 – Social Services.....	XII-16-1
Section 17 – Health.....	XII-17-1
Section 18 – Senior Services	XII-18-1
Section 19 – County Administration	XII-19-1
Section 20 – Facilities Located in City Spheres	XII-20-1
Section 21 – County Trails	XII-21-1

This Element was partially funded through the Community Development Block Grant program

CERTIFICATE OF ADOPTION

I hereby certify that this is the text, of the **Public Facilities Element**, Section I, Part XII of the San Diego County General Plan, as amended by General Plan Amendment (GPA) 04-010, and that it was considered by the San Diego County Planning Commission on the 15th day of October 2004 and approved the San Diego County Board of Supervisors on the 12th day of January 2005.

Attest: _____
Gary L. Pryor, Director
Department of Planning and Land Use

Text

Adopted March 13, 1991, as part of GPA 90-FE

Latest Amendment January 12, 2005, as part of GPA 04-010

A complete history of the amendments to this Element, both map and text, is available at the Department of Planning and Land Use.

SECTION 4. TRANSPORTATION

OVERVIEW

An efficient integrated transportation system promotes the movement of people and goods in a timely and orderly fashion. Transportation facilities located within the County include freeways and highways, streets and roads, public transit, bikeways and aviation facilities.

While San Diego County's transportation system offers commuters a range of choices, the automobile is by far the most popular and most frequently chosen method of transportation in the County. During the 10 year period from 1978 to 1988, when population increased by 22%, licensed drivers in the region increased by 40% (to 1,612,000 drivers), auto registrations increased by 64% (to 1,348,000 registrations) and weekday vehicle miles of travel increased by 63%. During this same period, increases in freeway facilities (11%) and local street and road mileage (16%) did not keep up with the increasing demand.⁴

Transit service also plays an important role in the transportation system within the County. Public transit provides a relatively inexpensive and efficient method of transportation, and is the predominant form of transportation for many people, especially students, low income persons and the elderly. The remaining modes of transportation such as air, rail, bicycle and walking represent a small but important amount of total trips within the County.

The San Diego Association of Governments (SANDAG) is designated by both the state and federal governments as the agency responsible for regional transportation planning. In this role, SANDAG prepares a Regional Transportation Plan (RTP) for the San Diego region. The RTP is updated approximately every two years and includes goals and objectives for all forms of transportation facilities in the County. The road network in the County Circulation Element is coordinated with the freeway and highway system presented in the RTP. By working cooperatively and using common information and projections, the County and SANDAG coordinate their plans to provide a regional transportation system that is efficient, safe and convenient.

This section is intended to supplement the Circulation Element of the General Plan. The Circulation Element is a schematic representation of the transportation corridors and widths required at ultimate development of the County General Plan. It also delineates a bikeway system intended to link bicycle traffic within and between communities.

⁴ San Diego Association of Governments, 1989 Regional Transportation Plan, p. 55-56.

EXISTING CONDITIONS

The County of San Diego is responsible for ensuring the planning, development and maintenance of transportation facilities located in the unincorporated area. In addition, the County works closely with other agencies, including SANDAG, the Metropolitan Transit Development Board (MTDB), the North San Diego County Transit Development Board, and the California Department of Transportation (CALTRANS) to aid in the planning of transportation facilities and services throughout the region.

ROAD AND BRIDGE FACILITIES

Travel by bicycle, car or public transit utilizes roads and bridges. With the increasing population and automobile usage in San Diego County, the amount of traffic on the roads has increased. Expanding the County road and bridge network is a continual process. In 1990, there were approximately 1,864 miles of County-maintained roadways in the unincorporated area, including both Circulation Element and non-Circulation Element roads. Additional roads in the unincorporated area that are not constructed or maintained by the County include freeways, highways and private roads.

The County Circulation Element is divided into two parts: maps and a written text. The nine Circulation Element maps covering the entire County depict the major roads and bicycle routes in the County, both existing and proposed. This is the County's plan for the location and size of roads that will be required in the future to serve proposed land uses in the unincorporated area. The size of each road varies from 2 to 6 lanes based on the forecasted number of trips to be made on the road.

The vehicular capacity of a roadway is measured by a Level of Service scale. With six tiers (A thru F), the level of service for a particular road is a measure of speed and travel time, traffic interruptions or restrictions, freedom to maneuver, safety, driver comfort and convenience, and economy. Level of Service "A" is identified as free vehicular flow with few conflicts or interruptions, while "F" is identified as highly congested stop-and-go with many vehicular conflicts and interruptions. Level of Service "C" is considered to be the desired service level on County roads.

The Circulation Element maps are important tools for preserving road rights-of-way and planning for needed road construction. As development occurs and creates the demand for additional roadways, the roads are constructed. The County Board of Supervisors approves updates to the Circulation Element maps as land use changes are approved. County transportation planning is coordinated with the cities in the region to ensure that region-serving roads common to multiple agencies are planned to meet the expected demand in all areas, and that widths and alignments are compatible.

Roads in the unincorporated area are constructed by both the County and by private property owners. The County builds needed roads to the extent that funds are available; however, the majority of the roads in the unincorporated area are constructed by private property owners as a condition of development. This includes roads within development projects, peripheral roads and off-site roads, if warranted by the demand generated by the development.

To support County road construction and maintenance, the County Department of Public Works operates 17 road maintenance stations. These stations serve as staging areas for road maintenance crews. Twelve borrow pits, 8 County owned and 4 leased, provide the paving and gravel materials needed to maintain the roadways. Figure 4-A shows the locations of the County road maintenance stations and borrow pits.

In addition to roads, the County also builds and maintains bridges in the unincorporated area. In October 1989 there were a total of 650 bridge or dip structures in the unincorporated area of the County, including 120 bridges with a span of 20 feet or more, 67 bridges with a span of less than 20 feet, 385 culverts, and 78 dip structures. These structures are located on both Circulation Element and non-Circulation Element roads.

Responsibility for the construction of bridge structures is borne by both developers and the County. The majority of the bridge structures are provided by the County; however, in some cases developers are required to build a bridge structure as a condition of development. The County contracts for the construction of bridges to private firms and assumes maintenance responsibility for them upon completion.

BICYCLE FACILITIES

The mild year-round climate in the San Diego region makes the area ideal for the use of bicycles for transportation. Currently, there are over 230,000 bicycle trips made daily within the San Diego region on more than 450 miles of designated bikeways and other roadways. Increased costs for motorized travel, congested roads and highways and a greater emphasis on physical fitness have all contributed to greater bicycle ridership. Because of the growing demand for transportation by bicycle, increased attention is being focused on this mode of travel.

Bicycle use, however, has not increased at the rate projected in the 1985 SANDAG Regional Transportation Plan. SANDAG projected a 10% increase between 1985 and 1987, while actual ridership during this period increased by only 5%. Major reasons for the slower increase in ridership include inadequate funding for bikeway projects, which has resulted in a 50% completion rate of planned bikeway projects, and a lack of incentives to encourage bicycle ridership.

FIGURE 4-A GOES HERE

X11-4-4

In the unincorporated area of San Diego County, there were a total of 70 miles of Bikeways in 1990. Of the 70 miles of Bikeways in the unincorporated area, Bike Lanes account for 68.5 miles, Bike Paths for 1.0 mile and Bike Routes for .5 miles. Definitions of Bikeways, Bike Lanes, Bike Paths and Bike Routes are contained in the Circulation Element. The Bicycle Network Map of the Circulation Element, in addition to showing existing Bikeways, maps over 300 miles of planned Bikeways that are not yet constructed.

Bicycle facilities in the unincorporated area are constructed by both developers and the County. Beginning in 1989, the County embarked on an aggressive program to expand the existing Bicycle Network. When improving property along roadways with planned Bikeways, the County requires the provision of Bikeways as part of the road improvements. State and Federal funding is being actively pursued to complete the remaining Bikeway segments.

In an effort to encourage bicycle ridership by both its employees and the general public, the County of San Diego has placed bicycle lockers at 14 County buildings and at regional transit centers. Currently, there are 59 lockers (holding 118 bicycles) at County buildings and a total of 20 additional lockers (holding 40 bicycles) in place at the Chula Vista and Oceanside Transit Centers. Bicycle racks and posts are also available.

TRANSIT FACILITIES

The San Diego County Transit System provides public transportation services to the unincorporated area and to 14 of the region's 18 cities. Public transit planning is done on a regional basis by the Metropolitan Transit Development Board, the North County Transit District and SANDAG, with input from the County. The County Department of Public Works completes short-range transit plans and transportation improvement programs for the systems it operates.

The County Transit System utilizes six types of transit services in its effort to provide a functional and responsive transit system. These are Suburban Fixed Route, Commuter Express Bus, Rural Lifeline service, Airporter service, Elderly and Disabled Dial-A-Ride service and General Public Dial-A-Ride services. Through these programs, the County Transit System serves almost two million passengers annually. Table 4-1 describes the different types of transit service and lists ridership levels for FY 89-90. All transit services offered by the County Transit System are provided by private contractors. In 1990, there were 10 contracted transit service providers. Seven contractors use their own vehicles, while the remaining three operate County-owned vehicles. In all cases, County Transit Service contractors provide vehicle maintenance and storage facilities.

As a means of integrating different transportation systems and types, increasing ridership and increasing accessibility, the County provides transit centers. Transit

X11-4-5

centers generally serve a number of routes and have over 500 boardings per day. The Transportation Development Act allows the County to build transit centers anywhere in the County. Once the center is built, the

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**TABLE 4-1
SAN DIEGO COUNTY TRANSIT SERVICE FY 1989-1990**

SERVICE TYPE	DESCRIPTION OF SERVICE	NO. OF FIXED ROUTES	ESTIMATED ANNUAL PASSENGERS
SUBURBAN FIXED ROUTE SERVICE	Fixed bus routes serving the cities and communities of La Mesa, Lemon Grove, El Cajon, Santee, Spring Valley, Rancho San Diego, Lakeside and Alpine. All of the routes offer connections to the San Diego Trolley and to San Diego Transit routes.	8	1,397,000
COMMUTER EXPRESS BUS	Fixed bus routes providing round trip service from Poway to downtown San Diego, Escondido to downtown San Diego and Oceanside to downtown San Diego. Connections to other transit services are also available along these routes.	3	170,000
POWAY TRANSIT SERVICES	There are three different services provided in the Poway area. The first service consists of fixed bus routes serving Poway with connections to San Diego Transit routes. Second is the Poway Dial-A-Ride, which provides demand responsive service to the general public. Third is the Poway Airporter, which is a demand-responsive service operating between Poway and the San Diego International Airport-Lindbergh Field.	3, N/A, N/A	254,700
RURAL BUS SERVICE	Fixed bus routes providing service from the rural eastern areas of the County to the cities of El Cajon and La Mesa with connections to San Diego Transit, the San Diego Trolley and other County Transit System routes.	7	16,800
ELDERLY and DISABLED DIAL-A-RIDE	Demand-responsive dial-a-ride providing service to elderly and disabled clientele in the cities and communities of El Cajon, La Mesa, Lemon Grove, Spring Valley, Lakeside and Alpine.	N/A	46,000
SPRING VALLEY DIAL-A-RIDE	Demand-responsive dial-a-ride for the general public serving the community of Spring Valley.	N/A	41,000

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transit operator serving the center generally is responsible for facility maintenance and upkeep. In 1990, the County-owned, either solely or in partnership with other jurisdictions, the following four transit centers:

- o Oceanside -- County owned
- o Escondido -- Joint ownership between the County and North County Transit
- o San Diego State University -- County-owned
- o Chula Vista Bayfront Trolley Station -- Joint ownership between the County and the City of Chula Vista.

Figure 4-B shows the locations of both existing and proposed County-owned transit centers. Other existing transit centers constructed by the County but owned by other jurisdictions are:

- o University Towne Center
- o Vista

AVIATION FACILITIES

Aviation facilities in San Diego County include 40 airports and 39 heliports. Of these facilities, 8 of the airports and 3 of the heliports (located at county airports) are owned by the County. One of the airports, Fallbrook, is leased and operated by a private group. Lindbergh Field, San Diego's major airport serving approximately 11 million passengers per year, is owned and operated by the San Diego Unified Port District and is not discussed in this Element. Figure 4-C shows the locations of all County-owned aviation facilities.

Public airports typically prepare an Airport Master Plan for the ultimate development of the airport's facilities. Additionally, State law requires each public airport to adopt a Comprehensive Land Use Plan (Public Utilities Code Section 21670 et seq.). These plans are prepared for the area surrounding each facility to ensure compatibility between adjacent land uses and the operation and/or expansion of the airport. The Comprehensive Land Use Plan also addresses noise levels, maximum building heights in surrounding areas and other public safety issues.

The 8 airports and 3 heliports that are owned by the County cover a combined total of 2,254 acres. Currently, there are approximately 1,562 private aircraft based at these facilities that, when combined with visiting aircraft, conduct approximately 534,921 operations per year (an operation is defined as one takeoff or one landing). Table 4-2 identifies the County-owned aviation facilities and lists the size and usage levels for each facility.

FIGURE 4-C GOES HERE

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MAP TO GO HERE

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**TABLE 4-2
COUNTY OWNED AVIATION
FACILITIES IN 1989**

NAME	NO. OF BASED AIRCRAFT ¹	TOTAL ACRES	ANNUAL NO. OF OPERATIONS
Agua Caliente Springs Airport	1	20	300 ²
Borrego Valley Airport	31	198	41,620 ³
Fallbrook Community Airport	77	290	1,995 ³
Gillespie Field Airport and Heliport	635	743	174,599 ⁴
Jacumba Airport	7	131	2,500 ²
McClellan Palomar Airport and Heliport	422	486	206,692 ⁴
Ocotillo Airport	0	344	200 ²
Ramona Airport and Heliport	220	342	113,184 ²
TOTAL(S)	1,393	2,554	541,090

- ¹ Based Aircraft: All figures are for 1989 except Fallbrook (1987).
² 1989 estimated number.
³ 1987 number.
⁴ 1988 number.

EXISTING FACILITY LEVELS

STREETS AND ROADS FACILITY LEVEL

The existing street and road system in the unincorporated County is generally operating at an acceptable level of service; a majority of the streets and roads experience little or no congestion. Most of the congestion that does exist in the unincorporated area takes place on major arterials during peak-hour traffic periods. Commuters approaching freeways to go to work cause congestion on the main arterials and also add to the congestion on the region's freeways in the more urbanized areas. As urban land uses have been extended outward to the more rural areas, and commuters drive greater distances to their workplaces, the amount of congestion on the region's freeways and highways has increased.

BICYCLE FACILITY LEVEL

While the Bicycle Network Map of the Circulation Element shows almost 400 miles of proposed bikeways in the unincorporated area, by 1990 only 70 miles of bikeways had been constructed. This level is not considered adequate to meet the needs of the unincorporated area.

TRANSIT FACILITY LEVEL

As the population of the San Diego region has grown, the use of transit services has increased. In addition to the completed transit centers, the following centers are planned for development by the County:

- o County Administration Center
- o Carlsbad Transit Center
- o Grossmont College Transit Center
- o Spring Valley Transit Center
- o Southwestern College Transit Center
- o Santee Transit Center
- o Oceanside Transit Center Phase II
- o Bayfront Trolley Station Phase II

In addition, a transit center is planned for Rancho San Diego. This center is being built by a private developer. Analysis of potential additional transit center sites will occur prior to completion of those currently planned.

AVIATION FACILITY LEVEL

Currently, the County's general aviation demands are being met by existing facilities. In 1989, there were 1,352 aircraft based at the County airports, and a combined total of 561,511 take-offs and landings conducted at the airports.

FUNDING METHODS

Funding transportation improvements in the County is becoming increasingly difficult. Previously used funding sources have in large part either been abolished or severely curtailed. Hardest hit have been funds available for routine operation and maintenance of existing facilities. As a result, funds that were previously available for construction of new facilities are now being channeled towards the operation and maintenance of existing facilities. In order to meet the needs of a growing County, new and alternate funding sources have been developed. These new sources, combined with the traditional funding mechanisms, still do not meet the entire transportation funding needs in the County. Some funding sources are exclusive to one type of transportation, while others are available for several modes.

STREETS AND ROADS FUNDING

State Subventions

The State provides transportation funding to the County through several programs. A State tax on gasoline provides funds which can be used for operation and maintenance costs or for the construction of roads, bridges and bikeways. The County also receives funds from the Streets and Highway Code, Section 2104(d) based on the ratio of registered vehicles throughout the County to the total vehicle registration throughout the State. These funds can be used for road construction.

Fines and Forfeitures

A portion of the revenues collected by the municipal courts for Vehicle Code violations (Vehicle Code Sections 42201 and 42210.5) are received by the County Road Fund for use in road maintenance and construction.

Development Exactions

Within the County, developers are generally required to construct all roads within their projects. In some cases developers may also be required to make off-site improvements to roads to mitigate the traffic impacts of the development.

Transportation Sales Tax (TransNet)

The passage of Proposition A (TransNet) in November of 1987, which raised the sales tax by one-half cent, is expected to provide the region with approximately \$2.25 billion over the 20 year lifespan of the tax. Approximately \$750 million will be generated for improvements to the each of the following: the region's highways, local streets and roads, and transit. From 1990 to 1995, the County will receive approximately \$56.7 million dollars in TransNet funds for local streets and roads, to expand and improve the existing road system in the unincorporated area. Additionally, \$1 million per year will be provided for the construction of bikeways throughout the region. The amount of TransNet funding received by the County and other jurisdictions each year is determined by SANDAG. SANDAG reviews TransNet funding requests in the region and determines the projects to be funded and the timing of funding.

Bridge and Thoroughfare Fee

A fee for bridges and thoroughfares is authorized by Government Code Section 66484 et seq. This statute authorizes the County to institute a fee to be applied to all new development in an identified area of benefit to offset the construction or expansion costs of planned Circulation Element roads, bridges and bikeways needed to serve the development.

Federal and State Grants

In FY90-91 the County received funding through three grant programs for use on transportation facilities: \$500,000 from the Community Development Block Grant, and \$2.5 million from the Federal Highway Administration. The County is also eligible to receive funds under the Combined Road Plan Program, which was created with the consolidation of the Federal Aid-Urban, Federal Aid-Secondary and Bridge Replacement Programs.

Assessment Districts

The Improvement Act of 1911 and the Municipal Improvement Act of 1913 enable the County to establish assessment districts to finance the construction or acquisition of public improvements, including roads and bridges, through the sale of bonds. The County can issue bonds to finance public improvements using the Improvement Act of 1911 or the Improvement Bond Act of 1915. Bonds are retired through assessments levied on properties receiving benefit from the improvement.

Prior to 1977 assessment districts were used extensively for both large and small scale projects. However, with the passage of Proposition 13, the use of assessment districts in the County to finance transportation projects decreased dramatically. Between 1977 and 1989, there were no assessment districts formed for the purpose of funding

transportation projects. However, in 1989, the formation of 4 assessment districts for transportation improvements in large-scale projects were being processed by the County.

AIRPORT FUNDING

Federal and State Funding

Federal and State grants for public airports are available for the design and construction of aviation related projects that have been recommended in an airport master plan or approved on an airport layout plan. Grant funds can also be obtained for the preparation of planning documents, such as airport master plans. Grant funds typically cover 80 to 90 percent of the total project cost. Grant funding is generated from fuel taxes, ticket surcharges and aircraft registration fees levied upon users of aviation facilities.

Lease Revenues

Another source of revenue for aviation facilities is the income earned from leased properties at County Airports. These revenues are used for capital improvements and maintenance at the eight County airports.

TRANSIT FUNDING

Federal and State Funds

Transit center funding is available from the Transportation Development Act, and through grants from Combined Road Plan⁵, State Transit Capital Improvement Program (TCI) and State Inter-modal sources. Grant funding is sought and utilized whenever available to supplement other sources.

Development Exactions

The County may require developers to construct transit facilities if their projects cause a need for additional or expanded transit service.

Transportation Sales Tax

The County Transit System is receiving approximately \$130,000 per year from TransNet to subsidize elderly and disabled services and senior fares.

⁵ Combined Road Plan funds used for transit center development are received from local jurisdictions that will benefit from the transit center.

BICYCLE FUNDING

Developer Exactions and Contributions

Many of the bikeways that are constructed in the unincorporated area are built by property owners as a condition of development. When a project is located on a roadway designated as a bikeway in the Circulation Element, the developer is required to construct the bikeway that abuts his property.

Transportation Sales Tax

The collection of the transportation sales tax (TransNet) is providing the San Diego region with \$1 million per year (for 20 years) for the improvement and expansion of bicycle facilities. In FY89-90, the County received \$210,000 from TransNet to fund the development of additional bikeways and related facilities in the unincorporated area.

Federal and State Funds

State Transportation Development Act Funds provide approximately \$1 million per year to the region for bicycle facility improvements within road rights-of-way. In FY89-90 the County share of this money was \$460,000. SANDAG reviews all of the projects requesting funding from this source and determines which will be funded. Funds from the State Bike Lane Account are available on a competitive basis for bicycle facility improvements serving commuter cyclists. The maximum amount that an agency can be granted in one year from this source is \$90,000.

ISSUES

- 1. Increases in the amount of automobile use have resulted in increased congestion on the region's roadways.**

Discussion: The dramatic rise in automobile use has far surpassed the ability of the County and other jurisdictions to upgrade and maintain the highway and road system. As the number of vehicles on the roadways has increased, the expansion of existing roadways and the construction of new roadways has not kept pace. Between 1978 and 1988, automobile registrations increased by 64% while increases in local street and road mileage only rose by 16%. As a result, certain roadways are functioning at a Level of Service "E" or "F" on a routine basis.

A LOS "C", which allows for stable traffic flow with room to maneuver, is a generally accepted level to strive for in new development. At this level, traffic generally flows smoothly, although freedom to maneuver within the roadway is somewhat restricted and lane changes require additional care.

However, there are some cases where development cannot achieve a LOS "C" on off-site roadways. For instance, there are areas where the existing development pattern precludes the addition of lanes or other mitigation or when the community is opposed to certain improvements to maintain a LOS "C". Additionally, there are existing roadways in the County that are currently operating below a LOS "C". Such cases are currently exceptions and generally occur when there is insufficient right-of-way to expand or modify a roadway or when the existing development in the area has generated more traffic than anticipated. In these cases a Level of Service "D" is acceptable on off-site roadways. At this level, small increases in flow cause substantial deterioration in service. Freedom to maneuver is limited and minor incidents can cause substantial interruption in the traffic flow.

When the roadway system reaches a LOS "E" or "F", or new development would push it to LOS "E" or "F", new development should not be approved unless the project can mitigate the LOS "E" or contribute a fair share to a program to mitigate the project's impacts, unless a statement of overriding findings can be made.

In order to control the amount of traffic on the roadways, and subsequently the amount of congestion, it is necessary to apply the LOS measurement to all roads that are impacted by a proposed project. The effect of a project on the road system varies from project to project. Due to the size and type of project, the type and capacity of roads serving the project, the amount of traffic generated by the development and the existing development pattern, the impact will vary from one project to another. To apply a LOS standard to only major or larger capacity roads or to within a specified geographic distance of a project could result in an inadequate review of the impacts of a project and create the potential for increased congestion. Therefore, project impacts should be assessed on a case-by-case basis.

2. New development has a regionwide impact on transportation facilities extending beyond jurisdictional boundaries.

Discussion: New development, regardless of the type, results in additional trips being taken on the region's transportation facilities. When development occurs, the automobile trips generated by the development are not restricted to the area immediately surrounding the development. Rather, the trips are made throughout the region. These trips not only increase the level of congestion on the transportation facilities in the community where the development is located, but also on the facilities in surrounding jurisdictions, and throughout the entire region.

3. The increased reliance on personal vehicles has resulted in increased congestion on the region's roadways and highways.

Discussion: A majority of the trips taken throughout the region is made in personal vehicles occupied by one person. This reliance on personal vehicles has contributed greatly to increased congestion and longer delays on the region's roads and highways.

Efforts to reduce the congestion on the roadways have traditionally focused on the construction of new roads or the expansion of existing roads. Recently, agencies have been developing Transportation Demand Management (TDM) programs to better manage travel demand during the busiest travel times and to improve the efficiency and effectiveness of the region's transportation systems. To achieve these goals, TDM includes the development and implementation of programs designed to influence traveler behavior by modifications in travel mode, frequency, time, route, vehicle occupancy, direction, trip length or facility assignment⁶.

Additionally, legislation adopted in 1990 (Propositions 108 and 111) addressed the traffic congestion problem. The measures provide additional funding for transportation improvements, but also place additional requirements on the receipt of these funds. The legislation requires the preparation and adoption of a Congestion Management Program (CMP) for the San Diego region. One of the requirements of the CMP is that Level of Service standards be adopted for all state highways and for principal arterials. The LOS can be set at "E" or the current level, whichever is lower. Failure to meet this standard could result in the withholding of transportation improvement funds.

4. The need for transportation improvements has increased faster than funds have been made available to finance the improvements.

Discussion: The large-scale rapid growth experienced throughout the region in the 1980s resulted in an increased burden on the region's transportation facilities. Funding needed to expand the facilities has not kept pace with the improvements needed to accommodate the increased use. Even with the funding provided by passage of Proposition A (TransNet), construction and maintenance of much of the region's transportation system remains underfunded. In the unincorporated area in 1989, there was a \$46 million backlog in construction of needed roadway facilities and a \$76 million backlog in maintenance of existing roadways.

⁶ San Diego Association of Governments, 1989 Regional Transportation Plan, p. 161.

5. Poorly planned or unregulated development in the vicinity of existing aviation facilities can result in future conflicts between incompatible land uses.

Discussion: When new development occurs in the vicinity of existing aviation facilities without sufficient consideration of the potential impacts, incompatibility of land uses may occur. Impacts such as noise and the potential hazard from crashes must be considered during land use planning reviews to ensure the health and safety of the public and to eliminate opposition to airport operations by surrounding residents. An airport's comprehensive land use plan identifies and recommends land use types that would be compatible with the airport use. The plan is intended to prevent the development of incompatible land uses and creation of hazards. Development projects are reviewed to ensure compatibility with both the current and future plans for the airport. For airports that do not yet have an adopted comprehensive land use plan, SANDAG's Airport Land Use Commission reviews all actions, regulations, and permits within the vicinity of the airport.⁷

6. Bicycle facilities in the unincorporated area have traditionally been developed at a slow rate.

Discussion: Over the past 10 years, an average of 4 miles of bikeways have been built annually in the unincorporated area. This level is below the rate of bikeway development that would be needed for the County to contribute its fair share toward meeting SANDAG's goal of increasing regional bikeway mileage by 30 miles per year. This is due in large part to a lack of funding sources, a lack of education programs to encourage cycling as an alternate mode of transportation, and a lack of emphasis on the development of bicycle facilities. In recent years, an increased emphasis has been placed on the development of bicycle facilities, and in FY 89-90, approximately 15 miles of bikeways were projected to be constructed in the unincorporated area. Publicity and educational programs directed at potential cyclists as well as motorists would encourage use of the bicycle as an alternative to the car.

⁷ As used in this section, "vicinity" means land that will be included or reasonably could be included within an airport's comprehensive land use plan. If a designated study area for the plan has not been identified, then "vicinity" means land within two miles of the boundary of a public airport.

GOALS, OBJECTIVES, POLICIES AND IMPLEMENTATION MEASURES

GOAL

A SAFE, CONVENIENT, AND ECONOMICAL INTEGRATED TRANSPORTATION SYSTEM INCLUDING A WIDE RANGE OF TRANSPORTATION MODES.

OBJECTIVE 1:

A Level of Service "C" or better on County Circulation Element roads.

Policy 1.1: New development shall provide needed roadway expansion and improvements on-site to meet the demand created by the development, and to maintain a Level of Service "C" on Circulation Element Roads during peak traffic hours. New development shall provide off-site improvements designed to contribute to the overall achievement of a Level of Service "D" on Circulation Element Roads.

Implementation Measure 1.1.1: Review all development proposals to determine both their short-term and long-term impacts on the roadway system. The area of impact will be determined based on the size, type and location of the project; the traffic generated by the project; and the existing circulation and development pattern in the area. [DPW, DPLU]

Implementation Measure 1.1.2: Require, as a condition of approval of discretionary projects, improvements or other measures necessary to mitigate traffic impacts to avoid reduction in the existing Level of Service below "C" on on-site Circulation Element roads except within the Otay Ranch project as defined in the Otay Subregional Plan Text, Volume 2. [DPLU, DPW]

Implementation Measure 1.1.3: Require, as a condition of approval of discretionary projects which have a significant impact on roadways, improvements or other measures necessary to mitigate traffic impacts to avoid reduction in the existing Level of Service below "D" on off-site and on-site abutting Circulation Element roads. New development that would significantly impact congestion on roads at LOS "E" or "F", either currently or as a result of the project, will be denied unless improvements are scheduled to increase the LOS to "D" or better or appropriate mitigation is provided. Appropriate mitigation would include a fair share contribution in the form of road improvements or a fair share contribution to an established program or project. If impacts cannot be mitigated, the project will be denied unless a specific statement of overriding findings is made pursuant to Section 15091(b) and 15093 of the State CEQA Guidelines. [DPLU, DPW]

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Implementation Measure 1.1.4: Whenever possible on development proposals, require that access to parcels adjacent to roads shown on the Circulation Element be limited to side streets in order to maintain through traffic flow. [DPW, DPLU]

Policy 1.2: General Plan Amendments and Rezones shall be reviewed to ensure that any proposed increases in density or intensity of use will not prevent the planned Circulation Element road system from operating at its planned Level of Service at buildout.

OBJECTIVE 2:

Equitable sharing of funding for transportation facilities.

Policy 2.1: New development shall be required to contribute its fair share toward financing transportation facilities.

Implementation Measure 2.1.1: Apply the Bridge and Thoroughfare Fee to all areas of the County and/or establish an unincorporated area traffic impact fee to support construction of the Circulation Element roadway and bikeway system in the unincorporated area to the extent necessitated by new development. [DPW]

Implementation Measure 2.1.2: Assist and support the development of a regional transportation impact fee to finance regional transportation improvements necessitated by new development. [DPLU, DPW]

Policy 2.2: The County will actively work to reduce existing transportation facilities deficiencies.

Implementation Measure 2.2.1: Seek new and additional sources of funding to help finance improvements and maintenance of County transportation facilities. [DPW]

Implementation Measure 2.2.2: Seek the County's fair share of state transportation bond issues, Proposition A sales tax funds, and other state and federal funding programs. [DPW]

OBJECTIVE 3:

A transportation system that is coordinated and integrated with the transportation facilities and plans of surrounding jurisdictions.

POLICY 3.1: The expansion of County transportation facilities will be coordinated with transportation plans of adjacent jurisdictions.

Implementation Measure 3.1.1: Coordinate with other jurisdictions in the review of planned transportation routes and facilities of regional or subregional importance to ensure compatibility between County, city and state plans. [DPLU, DPW]

Implementation Measure 3.1.2: Refer all discretionary development projects within city spheres of influence, within 1 mile of a city boundary, or within a city's designated planning review area to the appropriate city for a determination of the impact on city transportation facilities. [DPLU]

Implementation Measure 3.1.3: Establish a cooperative mechanism to reconcile differences between the County Circulation Element and that of neighboring cities. [DPLU]

Implementation Measure 3.1.4: Provide input to SANDAG during the development of regional transportation plans. [DPW, DPLU]

Implementation Measure 3.1.5: Coordinate with CalTrans in the review of planned improvements to State highways to ensure conformance to State requirements. [DPW, DPLU]

OBJECTIVE 4:

Reduction in the demand on the road system through increased public use of alternate forms of transportation or other means.

Policy 4.1: The use of alternate forms of transportation such as public transit and car/van pools will be supported and encouraged to reduce both roadway congestion and pollution.

Implementation Measure 4.1.1: In areas where there are likely to be a large number of prospective users, coordinate the planning of all new transit routes or route changes with established development patterns and land use plans to efficiently serve existing and future transit generators. [DPW, DPLU]

Implementation Measure 4.1.2: Work cooperatively with other jurisdictions and public transportation agencies, including the Metropolitan Transit Development Board and the North County Transit District, to provide a coordinated and integrated transit service network, including completion of the regional transit centers program. [DPW]

Implementation Measure 4.1.3: Consider the inclusion of public restrooms in the construction of new transit centers. [DPW]

Implementation Measure 4.1.4: Seek to increase transit service funds consistent with population growth and passenger demand. [DPW]

Implementation Measure 4.1.5: Site County facilities in close proximity to transit corridors, when feasible. [DGS, CAO, DPLU, DPW]

Implementation Measure 4.1.6: Establish incentive programs for employers to encourage their employees to utilize alternate forms of transportation. [DPW, DPLU, CAO]

Implementation Measure 4.1.7: Encourage employers to:

- a) provide employees with subsidized transit passes;
- b) establish carpool programs;
- c) provide vehicles for employee van-pools;
- d) provide preferential carpool parking;
- e) provide secure storage facilities, showers and lockers to encourage employees to use bicycles;
- f) use flex-time and staggered work hours;
- g) allow employees to telecommute from home or satellite offices; and
- h) participate in the commuter computer program.

[DPW, DPLU, CAO]

Implementation Measure 4.1.8: Develop fiscal and other incentives to promote the use of multi-modal means of transportation (e.g., bicycling to park-and-ride facilities). [DPW, DPLU, CAO]

Implementation Measure 4.1.9: Encourage pedestrian movement through urban design techniques, creating pedestrian-friendly environments and proper land use mix. [DPLU]

Policy 4.2: The County will ensure the development of its bikeway system and encourage its use.

Implementation Measure 4.2.1: Condition the approval of new development on dedication and construction of bikeways as indicated in the Circulation Element's Bicycle Network Plan. [DPLU, DPW]

Implementation Measure 4.2.2: Construct bikeways in areas where there are potentially large numbers of prospective users. [DPW]

Implementation Measure 4.2.3: Acquire cost-effective rights-of-way and/or negotiate for the use of existing rights-of-way or easements for bikeways (e.g., abandoned railroad rights-of-way, pipeline/ powerline easements, flood control channels). [DPW, DPLU]

Implementation Measure 4.2.4: Provide bicycle-carrying racks on public transportation vehicles when a need is demonstrated. [DPW]

Implementation Measure 4.2.5: Require secure bicycle storage facilities at new commercial centers, public centers, industrial centers, transit centers, airports and multi-family developments. [DPLU, DPW]

Policy 4.3: Consider the need for transit improvements in Large Scale Projects.

Implementation Measure 4.3.1: Refer applications for Large Scale Projects to the County Transit System for recommendations on transit facility needs. [DPLU, DPW]

Implementation Measure 4.3.2: Condition the approval of Large Scale Projects on the provision of accessible transit stops and other transit related improvements, as appropriate. [DPLU, DPW]

Policy 4.4: Ensure the provision of bicycle facilities and other needed bikeway related improvements in new development.

Implementation Measure 4.4.1: Refer applications for Large Scale Projects to the County Bikeway Coordinator for recommendations on requirements for the provision of bikeway facilities to serve the project. [DPLU, DPW]

OBJECTIVE 5:

Assurance of compatible land uses around County airports.

Policy 5.1: The County will ensure that land uses surrounding County airports are compatible with the operation of the airport.

Implementation Measure 5.1.1: Complete the development of Comprehensive Land Use Plans for each County airport. [DPW]

Implementation Measure 5.1.2: Review all applications for discretionary projects, building permit applications, general plan amendments and rezones located within the boundaries of an airport's Comprehensive Land Use Plan (CLUP) for compatibility with the plan as a basis for project approval. [DPW, DPLU]

Excerpts from County of San Diego Public Road Standards

PUBLIC ROAD STANDARDS



COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS

February 9, 2010

**PUBLIC ROAD STANDARDS
COUNTY OF SAN DIEGO
TABLE OF CONTENTS**

SECTION 4

REQUIRED PUBLIC ROAD RIGHTS-OF-WAY IMPROVEMENTS

Section 4.1 CLASSIFICATION

There are two general classifications of public roads as defined in these Standards: Circulation Element roads and Non-Circulation Element roads. The former are roads which have been adopted by the Board of Supervisors as the Regional Circulation Network for the General Plan.

Circulation Element Roads: Circulation Element roads are considered the regional backbone or skeleton road system. These roads provide for the vehicular movement of goods and services between various parts of the county.

Non-Circulation Element Roads: These roads feed vehicular traffic onto the Circulation Element system of roads. They provide access to residential neighborhoods and commercial and industrial areas.

Table No. 1 identifies specific road classifications and their normal expected carrying capacity in terms of vehicles per day at different levels of service. These capacities apply to road segments fully improved to County Standards, not those roads which exist as partially improved or unimproved segments. The values shown are subject to adjustment based on the geometry of the roadway, side frictions, and other relevant factors as determined by the Director, Department of Public Works.

Section 4.2 ROAD CROSS-SECTIONS

Tables 2A and 2B are a listing of all road requirements. The data specified in Tables 2A and 2B are minimums and are subject to modification as further defined in this section.

Section 4.3 GENERAL NOTES

- A. Additional right-of-way width may be required to accommodate slopes, drainage structures, bikeways, pathways, additional turning lanes and/or other required improvements.
- B. Where a public road is entirely within a proposed project's boundary, the developer shall dedicate the right-of-way required in Tables 2A and 2B, consistent with the road classification. The developer shall also grade cut slopes and construct the ultimate fill slopes and improvements. Reduced improvements may be approved if the road does not connect with an adjacent fully improved road and if it is only needed for internal circulation within the project.

- C. Where a public road is adjacent to the project's boundary, the developer shall construct any required curbs, gutters, ditches/ and/or sidewalks and a minimum of one-half of the surfacing width specified in Tables 2A and 2B for that particular road classification, but in no case less than 28 feet of paving and 40 feet of grading plus slopes.
- D. Travel lanes are 12 feet wide unless otherwise specified.

Section 4.4 CIRCULATION ELEMENT ROADS – SUPPLEMENTAL INFORMATION

The following requirements supplement the minimum standards found in Tables 2A and 2B:

A. Access

It is intended that the roads identified on the County General Plan depict corridors for public mobility and access which are planned to meet the needs of the existing and anticipated population of San Diego County. It is intended that Circulation Element roads provide public mobility with minimum interference from local traffic as it accesses a General Plan road. Therefore, Circulation Element roads require access control to minimize traffic conflicts. Access control for each Circulation Element road classification shall be as follows:

1. Expressways

No lot or private road access allowed; only selected public road access with full grade separations.

2. Prime Arterials

Access is fully controlled with new development required to provide signalized intersections for ingress and egress. Residential lots are required to be served from interior residential roads.

3. Major Roads

Access is controlled with new development required to provide access roads, common driveways and signalized intersections. Residential lots are required to be served from interior residential roads.

4. Collector Roads/Rural Collector Roads

Access is controlled with new development required to provide common driveways, access roads and, on occasion, signalized intersections. Residential lots are required to be served from interior residential roads.

TABLE 2A: COUNTY OF SAN DIEGO - PUBLIC ROAD STANDARDS

CLASSIC CIRCULATION ELEMENT ROAD CLASSIFICATIONS

ROAD CLASSIFICATION	# LANES / LANE WIDTH	MEDIAN WIDTH	ROAD SURFACING WIDTH	R.O.W. WIDTH	PAVED SHOULDER (# / WIDTH)	PARKWAY WIDTH	MIN. CURVE RADIUS	MAX. DESIRABLE GRADE	MIN. DESIGN SPEED (MPH)
Expressway (6.1)	6 / 12'	34'	126'	146'	2 / 10'	10'	1,700'	6%	65
Prime Arterial (6.2)	6 / 12'	14'	102'	122'	2 / 8'	10'	1,700'	6%	65
Major Road (4.1A)	4 / 12'	14'	78'	98'	2 / 8'	10'	1,200'	7%	55
Collector	4 / 12'	-	64'	84'	2 / 8'	10'	1,200'	7%	55
Town Collector	2 / 12'	12'	54'	74'	2 / 8'	10'	500'	9%	40
Light Collector	2 / 12'	-	40'	60'	2 / 8'	10'	700'	9%	45
Rural Collector	2 / 12'	-	40'	84'	2 / 8'	22'	500'	12%	40
Rural Light Collector	2 / 12'	-	40'	60'	2 / 8'	10'	500'	12%	40
Rural Mountain	2 / 12'	-	40'	100'	2 / 8'	30'	500'	12%	40
Recreational Parkway	2 / 12'	-	40'	100'	2 / 8'	30'	400'	12%	25

MODERN CIRCULATION ELEMENT ROAD CLASSIFICATIONS

Major Road									
*	With Intermittent Turn Lanes (4.1B)	-	64' - 78'	84' - 98'	2 / 8'	10'	1,200'	7%	55
Boulevard									
***	With Raised Median (4.2A)	14'	78'	106'	2 / 8'	14'	500'	9%	40
***	With Intermittent Turn Lanes (4.2B)	-	64' - 78'	92' - 106'	2 / 8'	14'	500'	9%	40
Community Collector									
**	With Raised Median (2.1A)	14'	54'	74'	2 / 8'	10'	700'	9%	45
**	With Continuous Left Turn Lane (2.1B)	14'	54'	74'	2 / 8'	10'	700'	9%	45
***	With Intermittent Turn Lanes (2.1C)	-	40' - 54'	60' - 74'	2 / 8'	10'	700'	9%	45
***	With Passing Lane (2.1D)	-	40'	84'	2 / 8'	10'	700'	9%	45
+	No Median (2.1E)	-	40'	60'	2 / 8'	10'	700'	9%	45
Light Collector									
**	With Raised Median (2.2A)	14'	54'	78'	2 / 8'	10'	500'	9%	40
**	With Continuous Left Turn Lane (2.2B)	14'	54'	78'	2 / 8'	10'	500'	9%	40
***	With Intermittent Turn Lanes (2.2C)	-	40' - 54'	64' - 78'	2 / 8'	10'	500'	9%	40
***	With Passing Lane (2.2D)	-	40'	88'	2 / 8'	10'	500'	9%	40
**	No Median (2.2E)	-	40'	64'	2 / 8'	10'	500'	9%	40
***	With Reduced Shoulder (2.2F)	-	40'	52'	2 / 2'	10'	500'	9%	40
Minor Collector									
***	With Raised Median (2.3A)	14'	54'	82'	2 / 8'	10'	350'	12%	35
***	With Intermittent Turn Lanes (2.3B)	-	40' - 54'	68' - 82'	2 / 8'	10'	350'	12%	35
***	No Median (2.3C)	-	40'	68'	2 / 8'	10'	350'	12%	35

NOTES: 1 Minimum longitudinal gradient shall be 1.0 percent for all road classifications shown above.

2 The maximum grade for a permanent cul-de-sac street turning area shall be 6 percent.

3 The maximum grade for a temporary cul-de-sac street turning area shall be that of the classification of the road being constructed.

4 For standards, see County Design Standard Drawing DS-2, DS-3, DS-4, and Section 4.5N of these Standards.

5 Additional pavement and ROW may be required for CE Collectors (4 feet) and Light Collectors (12 feet) in Industrial/Commercial Zones.

6 CE roads needing additional turn lanes will require an additional 12 to 14 feet of pavement and ROW for each lane.

7 The maximum super-elevation allowed on CE roads is 6%. Super-elevation is not normally required on Non-CE roads.

8 CE roads designated with Bike Lanes will require an additional 10 feet of pavement and ROW. This may be increased to 12' for Collector Roads and above based upon the provisions in Section 7.3 of these standards.

9 The minimum curve radii, shown in the table above, are based on the design speed with 6% super-elevation.

10 Intersecting roads are to be a minimum of 28 feet A.C. within a 40 feet graded roadbed. They may be larger if traffic volumes require more travel lanes.

LEGEND: * Similar to existing Collector Road

** Similar to existing Town Collector

*** Similar to existing Rural Collector

+ Same as existing Light Collector

++ Similar to existing Rural Light Collector

+++ New Classification Standard

TABLE 2B: COUNTY OF SAN DIEGO - PUBLIC ROAD STANDARDS

NON-CIRCULATION ELEMENT ROAD CLASSIFICATIONS

ROAD CLASSIFICATION	# LANES / LANE WIDTH	MEDIAN WIDTH	R.O.W. WIDTH	ROAD SURFACING WIDTH	PAVED SHOULDER (# / WIDTH)	PARKWAY WIDTH	MINIMUM CURVE RADIUS	MAXIMUM DESIRABLE GRADE	MINIMUM DESIGN SPEED (MPH)
Residential Collector	2 / 12'	-	60'	40'	2 / 8'	10'	300'	12%	30
Residential	2 / 12'	-	56'	36'	2 / 6'	10'	200'	15%	30
Residential Cul-de-sac	2 / 12'	-	52'	32'	2 / 4'	10'	200'	15%	30
Residential Loop	2 / 12'	-	52'	32'	2 / 4'	10'	200'	15%	30
Industrial/Commercial Collector	4 / 12'	-	88'	68'	2 / 10'	10'	300'	8%	30
Industrial/Commercial	2 / 16'	-	72'	52'	2 / 10'	10'	200'	8%	30
Industrial/Commercial Cul-de-sac	2 / 16'	-	72'	52'	2 / 10'	10'	200'	8%	30
Frontage	2 / 12'	-	52' min	32' min	1 / 8'	10'	See above	See above	-
Alley	2 / 10'	-	20-30'	20-30'	None	None	50'	12%	n/a
Hillside Residential	See NOTE 4	-	-	-	-	-	-	-	-
Rural Collector *	2 / 12'	-	48'	28'	2 / 2'	10'	300'	12%	30
Rural Residential	2 / 12'	-	48'	28'	2 / 2'	10'	200'	15%	30

NOTES: 1 Minimum longitudinal gradient shall be 1.0 percent for all road classifications shown above.

2 The maximum grade for a permanent cul-de-sac street turning area shall be 6 percent.

3 The maximum grade for a temporary cul-de-sac street turning area shall be that of the classification of the road being constructed.

4 For standards, see County Design Standard Drawing DS-2, DS-3, DS-4, and Section 4.5N of these Standards.

5 The minimum curve radii, shown in the table above, are based on the design speed with 6% superelevation.

6 Intersecting roads are to be a minimum of 28 feet A.C. within a 40 feet graded roadbed. They may be larger if traffic volumes require more travel lanes.

LEGEND: * Serves lots > 2 acres in size w/
no demand for on-street parking

5. Collector Roads/Rural Collector Roads

Access is controlled with new development required to provide common driveways, access roads and, on occasion, signalized intersections. Residential lots are required to be served from interior residential roads.

6. Community Collector

Access is controlled with new development required to provide common driveways, access roads and, on occasion, signalized intersections. Residential lots are required to be served from interior residential roads.

7. Boulevard

Access is controlled with new development required to provide common driveways, access roads and, on occasion, signalized intersections. Residential lots are required to be served from interior residential roads.

8. Town Collector Roads

Access is controlled with new development required to provide common driveways, access roads or signalized intersections. Residential lots are required to be served from interior residential roads. Commercial areas are required to provide driveway separation as identified in Section 6.1.C.2 as if the driveways were Non-Circulation Element roads.

9. Light Collector Roads/Rural Light Collector Roads

Access is generally controlled, with subdivisions and commercial developments required to provide access roads and common driveways respectively. Residential lots are required to be served from interior residential roads, where possible.

10. Minor Collector

Access is generally controlled. Lots in subdivisions are required to be served from interior residential roads. Commercial areas are required to be provided with common driveways for access.

10. Recreational Parkways/Rural Mountain Roads

Access is generally controlled. Lots in subdivisions are required to be served from interior residential roads. Commercial areas are required to be provided with common driveways for access.

B. Intersections

Intersectional sight distance shall have priority over all other standards and shall be achieved within standard right-of-way.

In general, at the intersection of Circulation Element roads, the right-of-way and improvement requirements of each leg of the intersection may be changed to the next higher road classification or to a special intersection design based on a traffic analysis of the intersection.

In the event a subdivision creates traffic requiring the construction of additional turning lanes and other safety features at a designated intersection, the subdivider shall construct or reconstruct such intersection.

C. Additional Turn Lanes

1. Prime Arterial and Expressway, if not grade separated

Where the left turn traffic volume is estimated to exceed 300 vehicles at peak hour, an additional 12 feet of right-of-way may be required for provision of a dual left turn lane. Minimum length of the additional left turn lane shall be 300 feet plus appropriate taper.

2. Major Road/Town Collector Road

Where the left turn traffic volume at an intersection on the above Circulation Element road is estimated to exceed 300 vehicles at peak hour, an additional 12 feet of right-of-way shall be required for provision of a dual left turn lane. Minimum length of the additional left turn lane shall be 300 feet plus appropriate taper.

3. Community Collector with raised medians/Boulevards with raised medians

Where the left turn traffic volume at an intersection on the above Circulation Element road is estimated to exceed 300 vehicles at peak hour, an additional 12 feet of right-of-way shall be required for provision of a dual left turn lane. Minimum length of the additional left turn lane shall be 300 feet plus appropriate taper.

4. Community Collector without raised medians/Boulevards without raised medians

Where the above Circulation Element road intersects another Circulation Element road or where a left turn lane is specified, an additional 14 feet of right-of-way shall be required to provide a left turn lane. Minimum length of the additional left turn lane shall be 250 feet plus appropriate taper.

5. Rural Collector/Rural Mountain Roads

Where these roads intersect another Circulation Element road or where a left turn lane is specified, an additional 14 feet of right-of-way shall be required to provide a left turn lane. Minimum length of the additional left turn lane shall be 250 feet plus appropriate taper.

6. Light Collector/Rural Light Collector Roads/Minor Collector

Where these roads intersect another Circulation Element road or where a left turn lane is specified, an additional 14 feet of right-of-way shall be required to provide a left turn lane. Minimum length of the additional left turn lane shall be 200 feet plus appropriate taper.

D. Boulevards

Boulevards are four-lane roads with a wider parkway width (14 feet) that may be most suitable in village and town center areas with a high demand for pedestrian travel or rural areas with steep topography.

E. Town Collector Roads

Town collector roads are two lane divided roads to control access and turning movements in commercial or higher density residential areas. These roads are appropriate only in villages and rural villages and other multi-residential and commercial areas as determined by the Director or by the Board of Supervisors. This determination may be based upon existing and/or future traffic volumes, the number of existing and/or future access points (such as driveways and private streets), length of road and other similar factors.

F. Community Collector

Community Collectors are two-lane roads with variable right-of-way and improvement widths, as specified in Table 2A. Variations for the Community Collector include the provision of raised medians, continuous two-way left turn lanes, intermittent turn lanes, passing lanes and undivided two lanes roads. A right-of-way width of up to 84 feet may be obtained and may be most suitable for two-lane State highways where future passing lanes may be provided.

G. Minor Collector

Minor Collectors are two-lane roads with variable right-of-way and improvement widths, as specified in Table 2A. Minimum median, shoulder and parkway widths are identified in Table 2A. Variations for the Minor Collector include the provision of raised medians, intermittent turn lanes, passing lanes and undivided two lanes roads. A wider right-of-way width of up to 82 feet may be obtained with an increased parkway width of 14 feet. The wider parkway width may be utilized in rural areas to improve visibility, improve tight curves and/or grade slopes. In villages and town centers the wider parkway may be utilized for landscape buffers and/or to enhance pedestrian and bicycle circulation.

H. Rural Collector and Rural Mountain Roads

Rural Collector and Rural Mountain roads are two lanes undivided roads preserving right-of-way of 84 feet and 100 feet respectively with additional right-of-way required at intersections. These roads are appropriate only in rural mountain areas with unique scenic and historic resources.

A Rural Collector road, or a Rural Mountain road, shall be designed with the traveled way placed within the right-of-way so as to minimize the physical impact on the terrain, vegetation, scenic features, and wildlife habitats. A developer shall construct, in accordance with standard drawings, any required dikes or curbs and gutters, and a minimum of 40 feet of pavement width. Where Rural Collector roads or Rural Mountain roads abut property zoned commercial, industrial, or multiple residential, appropriate commercial or industrial standards shall be constructed by the developer.

I. Recreational Parkway

Recreational Parkway is a road which serves rural recreational traffic. Such a road is to be designed for pleasure travel in keeping with the rural or recreational setting that it traverses and serves.

Recreational Parkways shall be designed and improved as follows:

1. Right-of-way width for a Recreational Parkway shall be a minimum of 100 feet, except where such a road is included in a publicly-owned recreational facility the right-of-way width will be adjusted to include only the roadbed width plus appurtenant facilities.
2. The pavement width shall be a minimum of 40 feet. When travel in opposite directions is to be separated to accommodate terrain or other important natural features, the surfaced traveled way shall be a minimum width of 24 feet for each direction.

Increased pavement widths will be required in such cases where the Director finds that such an increase is necessary to provide for the safe and free flow of traffic to enhance the recreational and pleasure driving aspects of the Recreational Parkway.

3. View site parking and roadside stopping areas shall be an integral part of the design and function of a Recreational Parkway. Where appropriate, paved roadside stopping areas with parking shall be provided. Proposed parking and roadside stopping areas shall have been reviewed and approved by each appropriate public agency when such Recreational Parkway traverses a recreational facility possessed by such public agency.

J. Interim Road

Standards for this classification of road are specified in Table 2A, Note 10. The exception to the standard is at intersections. A 40-foot pavement width instead of 28-foot pavement width will be required along the road and shall extend a minimum of 200 feet with appropriate taper in each direction from the centerline of the street intersection. Appropriate graded width shall be provided. Interim roads larger than 28 ft. A.C. within 40 ft. graded roadbed may be required if the anticipated traffic volumes are greater than can be safely accommodated on the minimum size road.

Section 4.5 NON-CIRCULATION ELEMENT ROADS

A. Residential Collector Road

A residential collector road is provided to collect local traffic from adjacent residential lots. Such roads are not envisioned as providing for through traffic generating in one community and destined for another. They are designed to accommodate local traffic volumes of between 1,500 and 4,500 average daily trips. A residential collector shall be provided as follows:

1. Right-of-way width shall be 60 feet.
2. Pavement width between the curb faces shall be 40 feet.
3. Knuckles may not be used.

B. Rural Residential Collector

A rural residential collector is intended to serve an area with lot sizes of 2 acres or more where there is little demand for on-street parking. A rural residential collector road is provided to collect local traffic from adjacent residential lots. Such roads are not envisioned as providing for through traffic generating in one community and destined for another. They are designed to accommodate local traffic volumes of between 1,500 and 4,500 average daily trips. A rural residential collector shall be provided as follows:

1. Right-of-way width shall be 48 feet.
2. Pavement width between the curb faces shall be 28 feet.
3. On-street parking is prohibited.
4. Knuckles may not be used.

C. Residential Road

A residential road shall provide access to the residential lots it passes by and abuts. It is not to be used in those instances where a road may be expected to serve in the future as a residential collector road. This road shall be used in those instances where the projected average daily vehicular traffic is not expected to exceed 1,500 trips. A residential road shall be provided as follows:

1. Right-of-way width shall be 56 feet.
2. Pavement width between the curb faces shall be 36 feet.
3. Knuckles may be used following the criteria shown on the County Standard Drawing.
4. Residential roads which are temporarily dead-ended shall end in a temporary cul-de-sac as shown on the County Standard Drawings unless the length is 200 feet or less, in which case no temporary cul-de-sac will be required.

D. Rural Residential Road

A rural residential road is intended to serve an area with lot sizes of 2 acres or more where there is little demand for on-street parking. A rural residential road shall provide access to the residential lots it passes by and abuts. It is not to be used in those instances where a road may be expected to serve in the future as a residential collector road. This road shall be used in those instances where the projected average daily vehicular traffic is not expected to exceed 1,500 trips. A residential road shall be provided as follows:

1. Right-of-way width shall be 48 feet.
2. Pavement width between the curb faces shall be 28 feet.
3. On-street parking is prohibited.
4. Knuckles may be used following the criteria shown on the County Standard Drawings.
5. Residential roads which are temporarily dead-ended shall end in a temporary cul-de-sac as shown on the County Standard Drawings unless the length is 200 feet or less, in which case no temporary cul-de-sac will be required.

E. Residential Cul-De-Sac Road

A residential cul-de-sac is a dead-end road which provides access to adjacent residential lots. Residential cul-de-sac roads are to provide vehicular access where the projected average daily vehicular trips are below 400. Residential cul-de-sac roads shall be provided as follows:

1. Right-of-way width shall be 52 feet.
2. Pavement width between the curb faces shall be 32 feet.
3. Minimum radius of the cul-de-sac shall be 38 feet to curb within a 48 foot radius of right-of-way.
4. Knuckles may be used following the criteria shown on the County Standard Drawing.
5. Residential cul-de-sac roads are not to exceed 600 feet in length.

F. Residential Loop Road

A residential loop road is a local purpose road which is to accommodate a maximum of 200 projected average daily vehicular trips. Residential loop roads shall be provided as follows:

1. Right-of-way width shall be 52 feet.
2. Pavement width between the curb faces shall be 32 feet.
3. Knuckles may be used following the criteria shown on the County Standard Drawing.

5. Loop roads in excess of 600 feet shall be constructed to residential or residential collector standards in accordance with projected average daily vehicle trips.

G. Industrial/Commercial Collector Road

This road shall provide access to abutting lots zoned for industrial or commercial purposes and also collect traffic from intersecting industrial roads, commercial roads, or collector roads, or roads which provide access to property which has an area of more than five acres and is zoned for commercial purposes, or which will be required to carry more than 4,500 average daily vehicular trips. Industrial/Commercial collector roads shall be provided as follows:

1. Right-of-way width shall be 88 feet.
2. Pavement width between the curb faces shall be 68 feet.
3. Knuckles may not be used.

H. Industrial/Commercial Road

This road shall provide access to abutting industrial/commercial lots where the projected average daily vehicular trips are less than 4,500. Industrial/Commercial roads shall be provided as follows:

1. Right-of-way width shall be 72 feet.
2. Pavement width between the curb faces shall be 52 feet.
3. Knuckles may be used following the criteria shown on the County Standard Drawing.

I. Industrial/Commercial Loop Road

An industrial/commercial loop road may be used in those instances where the projected average daily vehicular trips are less than 4,500. Industrial/Commercial loop roads shall be provided as follows:

1. Right-of-way width shall be 72 feet.
2. Pavement width between the curb faces shall be 52 feet.
3. Knuckles may be used following the criteria shown on the County Standard Drawing.

J. Industrial/Commercial Cul-De-Sac Road

An industrial/commercial cul-de-sac is a dead-end road which terminates in a cul-de-sac and provides access to abutting lots zoned for industrial or commercial purposes. Industrial/Commercial cul-de-sacs shall be used where the projected average daily vehicular trips do not exceed 1,000. Industrial/Commercial cul-de-sac roads shall be provided as follows:

1. Right-of-way width shall be 72 feet.

2. Pavement width between the curb faces shall be 52 feet.
3. The maximum length shall be 1,200 feet.
4. The cul-de-sac shall have a minimum 60 feet property line radius.
5. The cul-de-sac shall be paved to a radius of 50 feet.
6. Knuckles may be used following the criteria shown on the County Standard Drawing.

K. Half-Width Road (Boundary Road)

This road classification is for a road lying along a subdivision boundary for which only part of the right-of-way is to be presently dedicated and improved.

1. Right-of-Way
 - a. When the half-width road is a residential street, residential collector road, industrial road, or commercial road, the minimum right-of-way width shall be 40 feet. In addition, the half-width road shall have a one-foot strip of land adjacent to and along the project boundary to which the access rights shall be waived.
 - b. For all other roads, minimum right-of-way width for the half-width road shall be 40 feet or one-half of the ultimate right-of-way width, whichever is greater. In addition, the half-width road shall have a one-foot strip of land adjacent to and along the project boundary to which access rights shall be waived.
2. Surfaced roadbed shall be 28 feet in width, or one-half of the surfaced improvement that would be required for the development of the road at its ultimate width, whichever is greater.

L. Frontage Road

A frontage road is a road which is auxiliary to and located adjacent to a railroad, freeway, major highway, or arterial street, and which provides service to abutting property and adjacent areas and provides access control to the adjacent facility. A frontage road may be of any classification.

1. Right-of-way for the frontage road shall equal the standard right-of-way for whatever classification the frontage road is, less 4 to 10 feet, but in no event shall it be less than 52 feet.
2. Pavement width of the frontage road shall be equal to the improved width for whatever classification the frontage road is, less one 8 foot shoulder, but in no event shall the pavement width be less than 28 feet.

M. Alley

1. No new alleys shall be accepted into the County's maintained road system.
2. Alleys are to be privately maintained.
3. Existing alleys shall be as follows:
 - a. Right-of-way shall be a minimum of 20 feet and a maximum of 30 feet in width.
 - b. The intersection of an existing alley with a road shall provide adequate sight distance.
 - c. Alleys shall not intersect.
 - d. Pavement width shall be the full width of the right-of-way, except at intersections of roads, where curb returns with radii equal to the curb-to-property-line dimension shall be constructed.
 - e. Pavement for alleys shall be portland cement concrete (P.C.C.).

N. Interim Road

Standards for this classification of road are specified in Table 2B, Note 6 . The exception to the standard is at intersections. A 40-foot pavement width instead of 28-foot pavement width will be required along the road and shall extend a minimum of 200 feet with appropriate taper in each direction from the centerline of the street intersection. Appropriate graded width shall be provided. Interim roads larger than 28 ft. A.C. within 40 ft. graded roadbed may be required if the anticipated traffic volumes are greater than can be safely accommodated on the minimum size road.

O. Split-Level Road

A split-level road is a road of any classification providing the improvements and capacity provided in a normal road of the same classification but with each direction of traffic provided for at different elevations and separated by a median. Right-of-way shall be as follows:

1. The typical right-of-way section for a split-level road shall provide for the same parkway strip, parking lanes, traveled way, and turning lane area required for a normal road of the same classification and, in addition, shall provide:
 - a. A shoulder, at least two feet in width, along the median (edge nearest centerline) of the lower roadway.
 - b. A strip at least four feet in width along the median edge of the upper roadway. In this strip the concrete curb or asphalt concrete dike, or approved barrier, shall be installed in those locations where they are required. Guardrail and/or retaining wall shall be required on the median side of the upper roadway when the difference in road level elevation exceeds 10 feet
 - c. An additional width sufficient to permit construction of the cut or fill slope without exceeding

the safe slope angle determined from soil tests. In the case of vertical or near vertical cuts in rock material, an approved barrier shall be required on the median side of upper roadway. A shoulder at least 10 feet wide or an approach barrier shall be required on the median side of the lower roadway.

2. The width of the dedicated right-of-way shall not be less than the sum of the foregoing widths.

P. Hillside Residential Street

To encourage the orderly development of steep areas, certain deviations from the normal standards for subdivision streets will be permitted as shown on County Design Standard Drawings or as specified herein.

The narrower roadway sections provided in the hillside standards outlined below for category 1 hillside standards and category 2 hillside standards have a reduced capacity for traffic and on-road parking. Their use is therefore limited to residential roads in areas where the natural slope exceeds 15 percent and where at least 80 percent of the lots have a net area of not less than 20,000 square feet.

1. Category 1 hillside standards are identified as applying to those areas where the natural slope is between 15 and 20 percent.

The method of determining the percent slope for a category 1 hillside development is as follows:

- a. Tabulate the cross-sections with slopes which are less than 15 percent.
 - b. Tabulate the cross-sections with slopes which are 15 percent or greater but less than 20 percent.
 - c. Add the lengths (L_1) for cross-sections computed in a. above.
 - d. Add the lengths (L_2) for cross-sections computed in b. above.
 - e. Perform calculation: $L_2 - (L_1 + L_2) \times 100 = "X"$ percent.
 - f. If the "X" is 50 or greater, this meets category 1 hillside standards.
2. Category 2 hillside standards are identified as applying to those areas where the natural slope exceeds 20 percent.

The method of determining the percent slope for a category 2 hillside development is as follows:

- a. Tabulate the cross-sections with slopes which are 20 percent or less.
- b. Tabulate the cross-sections with slopes which are greater than 20 percent.
- c. Add the lengths (L_1) for cross-sections computed in a. above.
- d. Add the lengths (L_2) for cross-sections computed in b. above.

- e. Perform calculation: $L_2 - (L_1 + L_2) \times 100 = "X" \text{ percent}$.
 - f. If the "X" is 50 or greater, this meets category 2 hillside standards.
3. Calculation comments for 1 and 2 above are as follows:
- a. Cross-sections shall be taken normal to the contour lines.
 - b. The cross-sections shall be taken at uniform 50-foot intervals.
 - c. Width of cross-sections shall be the limits of the proposed grading.
 - d. Only one set of standards will be used for a road between intersections.
4. Category 1 hillside standards are as follows:
- a. Permissible street grades shall be increased to maximum of 20 percent grade.
 - b. The graded road width may be reduced a maximum of 5 feet in either or both parkway areas.
 - c. Street grades in excess of 15 percent shall not exceed 600 feet in length.
5. Category 2 hillside standards will allow utilization of any of the alternatives set forth as follows:
- a. Hillside residential two-way street alternatives 1, 2 and 3 are shown on County Design Standard Drawings.
 - b. Minimum right-of-way for hillside streets is shown on the County Design Standard Drawings. Additional slope rights may be required to accommodate a particular situation.
 - c. Hillside residential one-way street:
 - (1) A section providing one 14-foot driving lane and one continuous 8-foot parking lane.
 - (2) Minimum pavement width shall be 22 feet curb to curb.
 - (3) Minimum graded area shall be 30 feet wide.
 - (4) Minimum right-of-way shall be 38 feet wide.
 - (5) Maximum length between connections to crossing two-way streets shall be 1,200 feet.
 - (6) Where one-way streets are allowed, street pattern shall provide for return to point of origin in less than one mile.
 - d. Hillside residential streets that require a cul-de-sac shall be designed and improved by the developer in accordance with this section and the following:

- (1) The minimum property line radius for the turning circle shall be 40 feet.
 - (2) The turning circle shall be paved to a radius of at least 30 feet.
 - e. Minimum horizontal curve radius shall be sufficient to provide a safe speed of at least twenty-five miles per hour in accordance with the current applicable section or figure of the Highway Design Manual of Instructions. On minimum or near-minimum curves, pavement widening shall be provided in accordance with the current applicable section or figure of the Highway Design Manual of Instructions.
7. Where a hillside residential street is authorized to serve a development meeting the definition of a residence district, Section 5.2 will be modified to provide for a 5-foot wide concrete sidewalk, concrete curb and gutter, and a two-foot wide graded area outside of the edge of the sidewalk.

SECTION 6

DESIGN STANDARDS

Section 6.1 INTERSECTIONS

- A. Property line and curb return radii. The values below are provided for the majority of situations:
 - 1. Commercial and Industrial General Plan Areas:
 - a. Curb return radii shall be a minimum of 40 feet.
 - b. Property line radii shall be a minimum of 30 feet.
 - 2. Other General Plan Areas:
 - a. Curb return radii shall be a minimum of 30 feet.
 - b. Property line radii shall be a minimum of 20 feet.
 - 3. Special routes identified to accommodate interstate trucks:
 - a. Curb return radii shall be a minimum of 60 feet.
 - b. Property line radii shall be a minimum of 50 feet.
- B. Where the angle of intersection is less than 90 degrees, or where a sight distance problem may be anticipated, an increased property line radius may be required.
- C. Minimum distance between roads entering into other roads shall be as follows:
 - 1. Non-Circulation Element roads entering into other Non-Circulation Element roads shall have their centerlines separated by at least 200 feet.
 - 2. Non-Circulation Element roads entering into a Circulation Element road shall have their centerlines separated by at least 300 feet.
 - 3. Circulation Element roads entering into other Circulation Element roads shall have their centerlines separated by at least 600 feet.
- D. The angle between centerlines of intersecting roads shall be as nearly a right angle as possible, but in no case less than 70 degrees or greater than 110 degrees. Where the angle between the centerlines is between 70 and 80 degrees or between 100 and 110 degrees, there shall be required on the acute angle corner of the intersection a taper to accommodate right-hand turning movements. Said taper shall be set back 5 feet at the exiting point of the curb return and extend 40 feet in such a manner as to safely allow completion of the right-hand turning movement.

- E. Sight distance requirements at all intersections shall conform to the intersectional sight distance criteria as provided in Table 5 :

TABLE 5	
STANDARD CORNER SIGHT DISTANCE AT INTERSECTIONS	
Design Speed, MPH	Minimum Corner Intersection Sight Distance in Feet*
60	600
50	500
40	400
30	300
20	200

*Corner sight distance measured along the direction of travel from a point on the minor road at least 10 feet from the edge of the major road pavement and measured from a height of eye of 3.5 feet on the minor road to a height of object of 4.25 feet on the major road (See County Road Standard Drawings DS-20A and DS-20B). The design speed used to determine the minimum sight distance requirement shall be the greater of the current prevailing speed (if known) and the minimum design speed of the respective road classification shown in Tables 2A and 2B. Additional corner intersection sight distance may be required for left turns at divided highways, left turns onto two-way highways with more than two lanes, or grades which exceed 3 percent, as per "AASHTO A Policy on Design of Highways and Streets".

- F. The maximum grade at any intersection of two streets shall be 6 percent within the intersection and for at least 20 feet beyond the right-of-way of the intersecting street.
- G. Where two road centerlines intersect, the lower classified road is not to intersect the primary road with a curve. Instead, the alignment of the lower classified road must intersect the primary road in a straight line for a length not less than the full width of the primary road's right-of-way.
- H. Prior to the installation of a new traffic signal, traffic signal warrant analysis must be performed. The Californian Manual for Uniform Traffic Control Devices (CA MUTCD) should be consulted for procedures of conducting signal warrant analysis. The design and installation of the traffic signal and pavement markings should also conform to the CA MUTCD.
- I. Roundabouts are also acceptable traffic control devices at intersections. Prior to placement of a roundabout a comprehensive engineering design prepared by a licensed civil engineer experienced in the design and construction of roundabouts must be prepared. A peer review of the roundabout design should also be provided prior to installation of a roundabout on a Circulation Element Road. "Roundabouts: An Informational Guide" published by the Federal Highway Administration should be consulted as a guide in the design of the roundabout. Striping and pavement markings for the roundabout should conform to the CA MUTCD.

SANDAG's Trip Generation Rates

(NOT SO)

BRIEF GUIDE OF VEHICULAR TRAFFIC GENERATION RATES FOR THE SAN DIEGO REGION

APRIL 2002



401 B Street, Suite 800
San Diego, California 92101
(619) 699-1900 • Fax (619) 699-1950

NOTE: This listing only represents a *guide* of average, or estimated, traffic generation "driveway" rates and some very general trip data for land uses (emphasis on acreage and building square footage) in the San Diego region. These rates (both local and national) are subject to change as future documentation becomes available, or as regional sources are updated. For more specific information regarding traffic data and trip rates, please refer to the San Diego Traffic Generators manual. *Always check with local jurisdictions for their preferred or applicable rates.*

LAND USE	TRIP CATEGORIES (PRIMARY:DIVERTED:PASS-BY) ^a	ESTIMATED WEEKDAY VEHICLE TRIP GENERATION RATE (DRIVEWAY)	HIGHEST PEAK HOUR % (plus IN-OUT ratio) Between 6:00-9:30 A.M. Between 3:00-6:30 P.M.	TRIP LENGTH (Miles) ^b
AGRICULTURE (Open Space)	[80:18:2]	2/acre**		10.8
AIRPORT	[78:20:2]			12.5
Commercial		60/acre, 100/flight, 70/1000 sq. ft. * **	5% (6:4)	
General Aviation		6/acre, 2/flight, 6/based aircraft * **	9% (7:3)	
Heliports		100/acre**	15% (5:5)	
AUTOMOBILE ^c				
Car Wash				
Automatic		900/site, 600/acre**	4% (5:5)	
Self-serve		100/wash stall**	4% (5:5)	
Gasoline	[21:51:28]			2.8
with/Food Mart		160/vehicle fueling space**	7% (5:5)	
with/Food Mart & Car Wash		155/vehicle fueling space**	8% (5:5)	
Older Service Station Design		150/vehicle fueling space, 900/station**	7% (5:5)	
Sales (Dealer & Repair)		50/1000 sq. ft., 300/acre, 60/service stall* **	5% (7:3)	
Auto Repair Center		20/1000 sq. ft., 400/acre, 20/service stall*	8% (7:3)	
Auto Parts Sales		60/1000 sq. ft. * **	4%	
Quick Lube		40/service stall* **	7% (6:4)	
Tire Store		25/1000 sq. ft., 30/service stall* **	7% (6:4)	
CEMETERY		5/acre*		
CHURCH (or Synagogue)	[64:25:11]			5.1
		9/1000 sq. ft., 30/acre* ** (quadruple rates for Sunday, or days of assembly)	9% (6:4)	
COMMERCIAL/RETAIL ^d				
Super Regional Shopping Center (More than 80 acres, more than 800,000 sq. ft., w/usually 3+ major stores)		35/1000 sq. ft., ^e 400/acre*	4% (7:3)	
Regional Shopping Center	[54:35:11]	50/1000 sq. ft., ^e 500/acre*	4% (7:3)	5.2
(40-80 acres, 400,000-800,000 sq. ft., w/usually 2+ major stores)				
Community Shopping Center	[47:31:22]	80/1000 sq. ft., 700/acre* **	4% (6:4)	3.6
(15-40 acres, 125,000-400,000 sq. ft., w/usually 1 major store, detached restaurant(s), grocery and drugstore)				
Neighborhood Shopping Center (Less than 15 acres, less than 125,000 sq. ft., w/usually grocery & drugstore, cleaners, beauty & barber shop, & fast food services)		120/1000 sq. ft., 1200/acre* **	4% (6:4)	
Commercial Shops	[45:40:15]			4.3
Specialty Retail/Strip Commercial		40/1000 sq. ft., 400/acre*	3% (6:4)	
Electronics Superstore		50/1000 sq. ft.* **		
Factory Outlet		40/1000 sq. ft.* **	3% (7:3)	
Supermarket		150/1000 sq. ft., 2000/acre* **	4% (7:3)	
Drugstore		90/1000 sq. ft.* **	4% (6:4)	
Convenience Market (15-16 hours)		500/1000 sq. ft.* **	8% (5:5)	
Convenience Market (24 hours)		700/1000 sq. ft.* **	8% (5:5)	
Convenience Market (w/gasoline pumps)		850/1000 sq. ft., 550/vehicle fueling space**	8% (5:5)	
Discount Club		60/1000 sq. ft., 600/acre* **	7% (7:3)	
Discount Store		60/1000 sq. ft., 600/acre* **	3% (6:4)	
Furniture Store		6/1000 sq. ft., 100/acre**	4% (7:3)	
Lumber Store		30/1000 sq. ft., 150/acre**	7% (6:4)	
Home Improvement Superstore		40/1000 sq. ft.* **	5% (6:4)	
Hardware/Paint Store		60/1000 sq. ft., 600/acre* **	2% (6:4)	
Garden Nursery		40/1000 sq. ft., 90/acre* **	3% (6:4)	
Mixed Use: Commercial (w/supermarket)/Residential		110/1000 sq. ft., 2000/acre* (commercial only) 5/dwelling unit, 200/acre* (residential only)	3% (6:4) 9% (3:7)	10% (5:5) 13% (6:4)
EDUCATION				
University (4 years)	[91:9:0]	2.4/student, 100 acre*	10% (8:2)	8.9
Junior College (2 years)	[92:7:1]	1.2/student, 24/1000 sq. ft., 120/acre* **	12% (8:2)	9.0
High School	[75:19:6]	1.3/student, 15/1000 sq. ft., 60/acre* **	20% (7:3)	4.8
Middle/Junior High	[63:25:12]	1.4/student, 12/1000 sq. ft. 50/acre* **	30% (6:4)	5.0
Elementary	[57:25:10]	1.6/student, 14/1000 sq. ft., 90/acre* **	32% (6:4)	3.4
Day Care	[28:58:14]	5/child, 80/1000 sq. ft.* **	17% (5:5)	3.7
FINANCIAL ^d				
Bank (Walk-In only)	[35:42:23]	150/1000 sq. ft., 1000/acre* **	4% (7:3)	3.4
with Drive-Through		200/1000 sq. ft., 1500/acre*	5% (6:4)	
Drive-Through only		250 (125 one-way)/lane*	3% (5:5)	
Savings & Loan		60/1000 sq. ft., 600/acre**	2%	
Drive-Through only		100 (50 one-way)/lane**	4%	
HOSPITAL	[73:25:2]			8.3
General		20/bed, 25/1000 sq. ft., 250/acre*	8% (7:3)	
Convalescent/Nursing		3/bed**	7% (6:4)	
INDUSTRIAL				
Industrial/Business Park (commercial included)	[79:19:2]	16/1000 sq. ft., 200/acre* **	12% (8:2)	9.0
Industrial Park (no commercial)		8/1000 sq. ft., 90/acre* **	11% (9:1)	
Industrial Plant (multiple shifts)	[92:5:3]	10/1000 sq. ft., 120/acre*	14% (8:2)	11.7
Manufacturing/Assembly		4/1000 sq. ft., 50/acre**	19% (9:1)	
Warehousing		5/1000 sq. ft., 60/acre**	13% (7:3)	
Storage		2/1000 sq. ft., 0.2/vault, 30/acre*	9% (5:5)	
Science Research & Development		8/1000 sq. ft., 80/acre*	16% (9:1)	
Landfill & Recycling Center		6/acre	11% (5:5)	

(OVER)

MEMBER AGENCIES: Cities of Carlsbad, Chula Vista, Coronado, Del Mar, El Cajon, Encinitas, Escondido, Imperial Beach, La Mesa, Lemon Grove, National City, Oceanside, Poway, San Diego, San Marcos, SanTEE, Solana Beach, Vista and County of San Diego.

ADVISORY/LIAISON MEMBERS: California Department of Transportation, County Water Authority, U.S. Department of Defense, S.D. Unified Port District and Tijuana/Baja California.

LAND USE	TRIP CATEGORIES (PRIMARY-DIVERTED-PASS-BY)*	ESTIMATED WEEKDAY VEHICLE TRIP GENERATION RATE (DRIVEWAY)	HIGHEST PEAK HOUR % (plus IN:OUT ratio) Between 6:00-9:30 A.M. Between 3:00-6:30 P.M.	TRIP LENGTH (Miles)†
LIBRARY	[44:44:12]	50/1000 sq. ft., 400/acre**	2% (7:3) 10% (5:5)	3.9
LODGING	[58:38:4]			7.6
Hotel (w/convention facilities/restaurant)		10/occupied room, 300/acre	8% (6:4)	
Motel		9/occupied room, 200/acre*	8% (4:6)	
Resort Hotel		8/occupied room, 100/acre*	9% (6:4)	
Business Hotel		7/occupied room**	8% (4:6)	
MILITARY	[82:16:2]	2.5/military & civilian personnel*	9% (9:1) 10% (2:8)	11.2
OFFICE				
Standard Commercial Office	[77:19:4]	20/1000 sq. ft., 300/acre*	14% (9:1)	8.8
(less than 100,000 sq. ft.)				
Large (High-Rise) Commercial Office	[82:15:3]	17/1000 sq. ft., 600/acre*	13% (9:1)	10.0
(more than 100,000 sq. ft., 6+ stories)				
Office Park (400,000+ sq. ft.)		12/1000 sq. ft., 200/acre* **	13% (9:1)	
Single Tenant Office		14/1000 sq. ft., 180/acre*	15% (9:1)	8.8
Corporate Headquarters		7/1000 sq. ft., 110/acre*	17% (9:1)	
Government (Civic Center)	[50:34:16]	30/1000 sq. ft.**	9% (9:1)	6.0
Post Office				
Central/Walk-In Only		90/1000 sq. ft.**	5% (6:4)	
Community (not including mail drop lane)		200/1000 sq. ft., 1300/acre*	7% (5:5)	
Community (w/mail drop lane)		300/1000 sq. ft., 2000/acre*	7% (5:5)	
Mail Drop Lane only		1500 (750 one-way)/lane*	7% (5:5)	
Department of Motor Vehicles		180/1000 sq. ft., 900/acre**	8% (6:4)	
Medical-Dental	[60:30:10]	50/1000 sq. ft., 500/acre*	8% (8:2) 11% (3:7)	6.4
PARKS	[66:28:6]			5.4
City (developed w/meeting rooms and sports facilities)		50/acre*	4% (5:5)	
Regional (developed)		20/acre*		
Neighborhood/County (undeveloped)		5/acre (add for specific sport uses), 6/picnic site* **		
State (average 1000 acres)		1/acre, 10/picnic site**		
Amusement (Theme)		80/acre, 130/acre (summer only)**		
San Diego Zoo		115/acre*	8% (6:4)	
Sea World		80/acre*		
RECREATION				
Beach, Ocean or Bay	[52:39:9]	600/1000 ft. shoreline, 60/acre*		6.3
Beach, Lake (fresh water)		50/1000 ft. shoreline, 5/acre*		
Bowling Center		30/1000 sq. ft., 300/acre, 30/lane **	7% (7:3) 11% (4:6)	
Campground		4/campsite*	4% (8:2)	
Golf Course		7/acre, 40/hole, 700/course* **	7% (7:3)	
Driving Range only		70/acre, 14/tee box*	3% (3:7)	
Marinas		4/berth, 20/acre* **	3% (6:4)	
Multi-purpose (miniature golf, video arcade, batting cage, etc.)		90/acre	2% (6:4)	
Racquetball/Health Club		30/1000 sq. ft., 300/acre, 40/court*	4% (5:5)	
Tennis Courts		16/acre, 30/court**	5% (6:4)	
Sports Facilities				
Outdoor Stadium		50/acre, 0.2/seat*		
Indoor Arena		30/acre, 0.1/seat*		
Racetrack		40/acre, 0.6 seat*		
Theaters (multiplex w/matinee)	[66:17:17]	80/1000 sq. ft., 1.8/seat, 360/screen*	1/3% (6:4)	6.1
RESIDENTIAL	[86:11:3]			7.9
Estate, Urban or Rural		12/dwelling unit**	8% (3:7) 10% (7:3)	
(average 1-2 DU/acre)				
Single Family Detached		10/dwelling unit**	8% (3:7) 10% (7:3)	
(average 3-6 DU/acre)				
Condominium		8/dwelling unit**	8% (2:8) 10% (7:3)	
(or any multi-family 6-20 DU/acre)				
Apartment		6/dwelling unit**	8% (2:8) 9% (7:3)	
(or any multi-family units more than 20 DU/acre)				
Military Housing (off-base, multi-family)				
(less than 6 DU/acre)		8/dwelling unit	7% (3:7) 9% (6:4)	
(6-20 DU/acre)		6/dwelling unit	7% (3:7) 9% (6:4)	
Mobile Home				
Family		5/dwelling unit, 40/acre*	8% (3:7) 11% (6:4)	
Adults Only		3/dwelling unit, 20/acre*	9% (3:7) 10% (6:4)	
Retirement Community		4/dwelling unit**	9% (4:6) 7% (6:4)	
Congregate Care Facility		2.5/dwelling unit**	4% (6:4) 8% (5:5)	
RESTAURANT †	[51:37:12]			4.7
Quality		100/1000 sq. ft., 3/seat, 500/acre* **	7% (6:4) 8% (7:3)	
Sit-down, high turnover		160/1000 sq. ft., 6/seat, 1000/acre* **	8% (5:5) 8% (6:4)	
Fast Food (w/drive-through)		650/1000 sq. ft., 20/seat, 3000/acre* **	7% (5:5) 7% (5:5)	
Fast Food (without drive-through)		700/1000 sq. ft.* **	8% (6:4) 7% (5:5)	
Delicatessen (7am-4pm)		150/1000 sq. ft., 11/seat*	9% (6:4) 3% (3:7)	
TRANSPORTATION				
Bus Depot		25/1000 sq. ft.**		
Truck Terminal		10/1000 sq. ft., 7/bay, 80/acre**	9% (4:6) 8% (5:5)	
Waterport/Marine Terminal		170/berth, 12/acre**		
Transit Station (Light Rail w/parking)		300/acre, 2 ^{1/2} /parking space (4/occupied)**	14% (7:3) 15% (3:7)	
Park & Ride Lots		400/acre (600/paved acre), 5/parking space (8/occupied)* **	14% (7:3) 15% (3:7)	

* Primary source: San Diego Traffic Generators.

* Other sources: ITE Trip Generation Report (6th Edition), Trip Generation Rates (other agencies and publications), various SANDAG & CALTRANS studies, reports and estimates.

* Trip category percentage ratios are daily from local household surveys, often cannot be applied to very specific land uses, and do not include non-resident drivers (draft SANDAG Analysis of Trip Diversion, revised November, 1990).

PRIMARY - one trip directly between origin and primary destination.

DIVERTED - linked trip (having one or more stops along the way to a primary destination) whose distance compared to direct distance ≥ 1 mile.

PASS-BY - undiverted or diverted < 1 mile.

† Trip lengths are average weighted for all trips to and from general land use site. (All trips system-wide average length = 6.9 miles)

† Fitted curve equation: $\ln(T) = 0.502 \ln(x) + 6.945$ } T = total trips, x = 1,000 sq. ft.

† Fitted curve equation: $\ln(T) = 0.756 \ln(x) + 3.950$ }

† Fitted curve equation: $t = -2.169 \ln(d) + 12.85$ t = trips/DU, d = density (DU/acre), DU = dwelling unit

† Suggested PASS-BY (undiverted or diverted < 1 mile) percentages for trip rate reductions only during P.M. peak period (based on combination of local data/review and Other sources**):

COMMERCIAL/RETAIL	
Regional Shopping Center	20%
Community	30%
Neighborhood	40%
Specialty Retail/Strip Commercial (other)	10%
Supermarket	40%
Convenience Market	50%
Discount Club/Store	30%
FINANCIAL	
Bank	25%
AUTOMOBILE	
Gasoline Station	50%
RESTAURANT	
Quality	10%
Sit-down high turnover	20%
Fast Food	40%

* Trip Reductions - In order to help promote regional "smart growth" policies, and acknowledge San Diego's expanding mass transit system, consider vehicle trip rate reductions (with proper documentation and necessary adjustments for peak periods). The following are some examples:

[1] A 5% daily trip reduction for land uses with transit access or near transit stations accessible within 1/4 mile.

[2] Up to 10% daily trip reduction for mixed-use developments where residential and commercial retail are combined (demonstrate mode split of walking trips to replace vehicular trips).

Excerpts from City of San Diego Trip Generation Manual

ADDITIONAL TRIP GENERATION RATE GUIDELINES

The following trip generation rates were determined by the Transportation Planning Section based on a limited amount of data. Although most of these rates are site specific, they may be used as a reference for a similar land use elsewhere, with prior approval.

LAND USE	TRIP GENERATION RATE
Aircraft Hangar/Storage	6 trips/aircraft
Asphalt Batch Plant	100 trips/usable acre
Automated Teller Machine (Freestanding)	260 trips/site
Automobile Dismantling Facility	50 trips/acre
Automobile Multiple Dealerships *	31 trips/1,000 sq. ft.; 217 trips/acre;
Basketball Court	28 trips/1,000 sq. ft.; 200 trips/acre cumulative 200 trips/court
Charitable Resale Store (Salvation Army)	610 trips/weekday; 380 trips/Sunday
Courier Express Distribution Center (Federal Express)	10 trips/1,000 sq. ft.
Factory Outlets	70 trips/1,000 sq. ft.; 700 trips/acre
Golf Driving Range	600 trips/site
Gravel Quarry Operation	100 trips/usable acre
Handball Court	40 trips/court
Heavy Equipment Repair/Storage (Hawthorne)	1,069 trips/site
Multi Family Residential for Physically Disabled	4.5 trips/dwelling unit
Quick Oil Change	40 trips/1,000 sq. ft.; 36 trips/1,000 sq. ft. cumulative
Recreation Building	45 trips/1,000 sq. ft.
Recreational Vehicle Dealership	200 trips/acre
Recreational Vehicle Park	$2 \times 1/(T.O.) \times \text{number of hookups} \times 0.85$
Seminar Room/Study Hall/Office (Pt. Loma Nazarene College)	4 trips/1,000 sq. ft.
Truck Parking Facility	60 trips/acre; 30 trips/acre for Otay Mesa
Truck Repair Service	140 trips/service repair site + 2.5 trips/ 1,000 sq. ft. of administrative office

* Minimum of three automobile dealerships with access from the same street. Based on Federhart and Associates, February 1987.

Excerpts from City of San Diego's Significance Determination Thresholds



California Environmental Quality Act
Significance Determination
Thresholds

Development Services
Department

JANUARY 2007*



Land Development
Review Division
(619) 446-5460

*Note: Development Services Department staff periodically revises sections of the thresholds in response to CEQA case law, and changes in federal, state, and local regulations. Staff also periodically provides updated information and clarification and direction for environmental analysts.

O. TRANSPORTATION / CIRCULATION and PARKING

Note: This section is to be applied for projects deemed complete on or after January 1, 2007. For projects deemed complete prior to January 1, 2007, the following Section O.1. on Page 73 is to be applied.

Project-related traffic impacts are one of the most commonly identified environmental impacts under the CEQA. Traffic operations and safety impacts are addressed in this section. Other environmental impacts associated with project-related traffic and transportation infrastructure improvements (e.g., air quality, noise, biology) are addressed in the applicable sections of this manual which pertain to such issues.

Direct traffic impacts are those projected to occur at the time a proposed development becomes operational, including other developments not presently operational but which are anticipated to be operational at that time (near term).

Cumulative traffic impacts are those projected to occur at some point after a proposed development becomes operational, such as during subsequent phases of a project and when additional proposed developments in the area become operational (short-term cumulative) or when the affected community plan area reaches full planned build out (long-term cumulative).

It is possible that a project's near term (direct) impacts may be reduced in the long term, as future projects develop and provide additional roadway improvements (for instance, through implementation of traffic phasing plans). In such a case, the project may have direct impacts but not contribute considerably to a cumulative impact.

For intersections and roadway segments affected by a project, level of service (LOS) D or better is considered acceptable under both direct and cumulative conditions.

INITIAL STUDY CHECKLIST QUESTIONS

The following are taken from the City's Initial Study Checklist. They provide guidance on determining the potential significance of impacts to transportation, circulation systems, and parking.

Would the proposal result in:

1. Traffic generation in excess of specific community plan allocation?
2. An increase in projected traffic which is substantial (see table on following page) in relation to the existing traffic load and capacity of the street system?
3. Addition of a substantial amount of traffic to a congested freeway segment, interchange, or ramp as shown in the table on the next page?
4. An increased demand for off-site parking?
5. Effects on existing parking?
6. Substantial impact upon existing or planned transportation systems?

7. Substantial alterations to present circulation movements including effects on existing public access to beaches, parks, or other open space areas?
8. Increase in traffic hazards for motor vehicles, bicyclists or pedestrians due to a proposed, non-standard design feature (e.g., poor sight distance or driveway onto an access-restricted roadway)?
9. A conflict with adopted policies, plans or programs supporting alternative transportation models (e.g., bus turnouts, bicycle racks)?

SIGNIFICANCE THRESHOLDS

The following thresholds have been established to determine significant traffic impacts:

1. If any intersection, roadway segment, or freeway segment affected by a project would operate at LOS E or F under either direct or cumulative conditions, the impact would be significant if the project exceeds the thresholds shown in the table below.
2. At any ramp meter location with delays above 15 minutes, the impact would be significant if the project exceeds the thresholds shown in the table below.
3. If a project would add a substantial amount of traffic to a congested freeway segment, interchange, or ramp, the impact may be significant.
4. Addition of a substantial amount of traffic to a congested freeway segment, interchange, or ramp as shown in the table below?
5. If a project would increase traffic hazards to motor vehicles, bicyclists or pedestrians due to proposed non-standard design features (e.g., poor sight distance, proposed driveway onto an access-restricted roadway), the impact would be significant. Note: analysts should refer readers to a discussion of this issue in the Health and Safety section of the environmental document.
5. If a project would result in the construction of a roadway which is inconsistent with the General Plan and/or a community plan, the impact would be significant if the proposed roadway would not properly align with other existing or planned roadways.
6. If a project would result in a substantial restriction in access to publicly or privately owned land, the impact would be significant.

Level of Service with Project *	Allowable Change Due To Project Impact **					
	Freeways		Roadway Segments		Intersections	Ramp Metering
	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec.)	Delay (min.)
E (or ramp meter delays above 15 min.)	0.010	1.0	0.02	1.0	2.0	2.0
F (or ramp meter delays above 15 min.)	0.005	0.5	0.01	0.5	1.0	1.0

Note 1: The allowable increase in delay at a ramp meter with more than 15 minutes delay and freeway LOS E is 2 minutes.

Note 2: The allowable increase in delay at a ramp meter with more than 15 minutes delay and freeway LOS F is 1 minute.

* All LOS measurements are based upon Highway Capacity Manual procedures for peak-hour conditions. However, V/C ratios for roadway segments are estimated on an ADT/24-hour traffic volume basis (using Table 2 of the City's Traffic Impact Study Manual. The acceptable LOS for freeways, roadways, and intersections is generally "D" ("C" for undeveloped locations). For metered freeway ramps, LOS does not apply. However, ramp meter delays above 15 minutes are considered excessive.

** If a proposed project's traffic causes the values shown in the table to be exceeded, the impacts are determined to be significant. The project applicant shall then identify feasible improvements (within the Traffic Impact Study) that will restore/and maintain the traffic facility at an acceptable LOS. If the LOS with the proposed project becomes unacceptable (see above * note), or if the project adds a significant amount of peak-hour trips to cause any traffic queues to exceed on- or off-ramp storage capacities, the project applicant shall be responsible for mitigating the project's direct significant and/or cumulatively considerable traffic impacts.

KEY: Delay = Average control delay per vehicle measured in seconds for intersections, or minutes for ramp meters
LOS = Level of Service
Speed = Speed measured in miles per hour
V/C = Volume to Capacity ratio

PARKING

Parking requirements vary by land use and location and are dictated by the City of San Diego Municipal Code and adopted by the City Council policies.

SIGNIFICANCE THRESHOLDS

Non-compliance with the City's parking ordinance does not necessarily constitute a significant environmental impact. However, it can lead to a decrease in the availability of existing public parking in the vicinity of the project. Generally, if a project is deficient by more than ten percent of the required amount of parking and at least one of the following criteria applies, then a significant impact may result:

1. The project's parking shortfall or displacement of existing parking would substantially affect the availability of parking in an adjacent residential area, including the availability of public parking.
2. The parking deficiency would severely impede the accessibility of a public facility, such as a park or beach.

O.1. TRAFFIC/PARKING

Note: This section is to be applied to projects deemed complete prior to January 1, 2007.

Traffic:

Direct traffic impacts are those projected to occur at the time a proposed development becomes operational. The calculations include other operating projects and those not yet operational but which are anticipated to be operational when the proposed project goes into effect.

Cumulative traffic impacts are those projected to occur at some point after a proposed development becomes operational, such as during subsequent phases of a project or when additional proposed developments in the area become operational (short-term cumulative) or when affected community plan areas reach full planned buildout (long-term cumulative).

For intersections and roadway segments affected by a project, level of service (LOS) D or better is considered acceptable under both direct and cumulative conditions. However, for undeveloped locations, the goal is to achieve LOS C.

Significance Thresholds

1. If any intersection or roadway segment affected by a project would operate at LOS E or F under either direct or cumulative conditions, the impact would be significant if the project exceeds the following allowable increases in delay or intersection capacity utilization for affected intersections or volume-to-capacity ratio or speed for affected roadway segments:

Level of Service with Project	Allowable Increase Due to Project Impacts*			
	Intersections		Roadway Segments	
	<i>Delay (sec.)</i>	<i>ICU (V/C)</i>	<i>V/C</i>	<i>Speed (mph)</i>
E**	2	0.02	0.02	1
F**	2	0.02	0.02	1

Notes:

- * If a proposed project's traffic impacts exceed the values shown in the table, then the impacts are deemed "significant." The project applicant shall identify "feasible mitigations" to achieve LOS D or better.
- ** The acceptable level of service standard for roadways and intersections in San Diego is LOS D. However, for undeveloped locations, the goal is to achieve LOS C.

Key:

Delay = Average stopped delay per vehicle measured in seconds

ICU = Intersection Capacity Utilization

V/C = Volume-to-Capacity Ratio (capacity at level of service E should be used, as specified in Table 1 of the City of San Diego Traffic Impact Study Manual)

Speed = Arterial speed measured in miles per hour

Excerpts from Caltrans Guidelines for the Preparation of Traffic Impact Studies



GUIDE FOR THE PREPARATION

OF

TRAFFIC IMPACT STUDIES

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

December 2002

PREFACE

The California Department of Transportation (Caltrans) has developed this "Guide for the Preparation of Traffic Impact Studies" in response to a survey of cities and counties in California. The purpose of that survey was to improve the Caltrans local development review process (also known as the Intergovernmental Review/California Environmental Quality Act or IGR/CEQA process). The survey indicated that approximately 30 percent of the respondents were not aware of what Caltrans required in a traffic impact study (TIS).

In the early 1990s, the Caltrans District 6 office located in Fresno identified a need to provide better quality and consistency in the analysis of traffic impacts generated by local development and land use change proposals that effect State highway facilities. At that time, District 6 brought together both public and private sector expertise to develop a traffic impact study guide. The District 6 guide has proven to be successful at promoting consistency and uniformity in the identification and analysis of traffic impacts generated by local development and land use changes.

The guide developed in Fresno was adapted for statewide use by a team of Headquarters and district staff. The guide will provide consistent guidance for Caltrans staff who review local development and land use change proposals as well as inform local agencies of the information needed for Caltrans to analyze the traffic impacts to State highway facilities. The guide will also benefit local agencies and the development community by providing more expeditious review of local development proposals.

Even though sound planning and engineering practices were used to adapt the Fresno TIS guide, it is anticipated that changes will occur over time as new technologies and more efficient practices become available. To facilitate these changes, Caltrans encourages all those who use this guide to contact their nearest district office (i.e., IGR/CEQA Coordinator) to coordinate any changes with the development team.

ACKNOWLEDGEMENTS

The District 6 traffic impact study guide provided the impetus and a starting point for developing the statewide guide. Special thanks is given to Marc Birnbaum for recognizing the need for a TIS guide and for his valued experience and vast knowledge of land use planning to significantly enhance the effort to adapt the District 6 guide for statewide use. Randy Treece from District 6 provided many hours of coordination, research and development of the original guide and should be commended for his diligent efforts. Sharri Bender Ehlert of District 6 provided much of the technical expertise in the adaptation of the District 6 guide and her efforts are greatly appreciated.

A special thanks is also given to all those Cities, Counties, Regional Agencies, Congestion Management Agencies, Consultants, and Caltrans Employees who reviewed the guide and provided input during the development of this Guide for the Preparation of Traffic Impact Studies.

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I. INTRODUCTION

Caltrans desires to provide a safe and efficient State transportation system for the citizens of California pursuant to various Sections of the California Streets and Highway Code. This is done in partnership with local and regional agencies through procedures established by the California Environmental Quality Act (CEQA) and other land use planning processes. The intent of this guide is to provide a starting point and a consistent basis in which Caltrans evaluates traffic impacts to State highway facilities. The applicability of this guide for local streets and roads (non-State highways) is at the discretion of the effected jurisdiction.

Caltrans reviews federal, State, and local agency development projects¹, and land use change proposals for their potential impact to State highway facilities. The primary objectives of this guide is to provide:

- ❑ guidance in determining if and when a traffic impact study (TIS) is needed,
- ❑ consistency and uniformity in the identification of traffic impacts generated by local land use proposals,
- ❑ consistency and equity in the identification of measures to mitigate the traffic impacts generated by land use proposals,
- ❑ lead agency² officials with the information necessary to make informed decisions regarding the existing and proposed transportation infrastructure (see Appendix A, Minimum Contents of a TIS)
- ❑ TIS requirements early in the planning phase of a project (i.e., initial study, notice of preparation, or earlier) to eliminate potential delays later,
- ❑ a quality TIS by agreeing to the assumptions, data requirements, study scenarios, and analysis methodologies prior to beginning the TIS, and
- ❑ early coordination during the planning phases of a project to reduce the time and cost of preparing a TIS.

II. WHEN A TRAFFIC IMPACT STUDY IS NEEDED

The level of service³ (LOS) for operating State highway facilities is based upon measures of effectiveness (MOEs). These MOEs (see Appendix “C-2”) describe the measures best suited for analyzing State highway facilities (i.e., freeway segments, signalized intersections, on- or off-ramps, etc.). Caltrans endeavors to maintain a target LOS at the transition between LOS “C” and LOS “D” (see Appendix “C-3”) on State highway facilities, however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than the appropriate target LOS, the existing MOE should be maintained.

¹ "Project" refers to activities directly undertaken by government, financed by government, or requiring a permit or other approval from government as defined in Section 21065 of the Public Resources Code and Section 15378 of the California Code of Regulations.

² "Lead Agency" refers to the public agency that has the principal responsibility for carrying out or approving a project. Defined in Section 21165 of the Public Resources Code, the "California Environmental Quality Act, and Section 15367 of the California Code of Regulations.

³ "Level of service" as defined in the latest edition of the Highway Capacity Manual, Transportation Research Board, National Research Council.

A. Trip Generation Thresholds

The following criterion is a starting point in determining when a TIS is needed. When a project:

1. Generates over 100 peak hour trips assigned to a State highway facility
2. Generates 50 to 100 peak hour trips assigned to a State highway facility – and, affected State highway facilities are experiencing noticeable delay; approaching unstable traffic flow conditions (LOS “C” or “D”).
3. Generates 1 to 49 peak hour trips assigned to a State highway facility – the following are examples that may require a full TIS or some lesser analysis⁴:
 - a. Affected State highway facilities experiencing significant delay; unstable or forced traffic flow conditions (LOS “E” or “F”).
 - b. The potential risk for a traffic incident is significantly increased (i.e., congestion related collisions, non-standard sight distance considerations, increase in traffic conflict points, etc.).
 - c. Change in local circulation networks that impact a State highway facility (i.e., direct access to State highway facility, a non-standard highway geometric design, etc.).

Note: A traffic study may be as simple as providing a traffic count to as complex as a microscopic simulation. The appropriate level of study is determined by the particulars of a project, the prevailing highway conditions, and the forecasted traffic.

B. Exceptions

Exceptions require consultation between the lead agency, Caltrans, and those preparing the TIS. When a project’s traffic impact to a State highway facility can clearly be anticipated without a study and all the parties involved (lead agency, developer, and the Caltrans district office) are able to negotiate appropriate mitigation, a TIS may not be necessary.

C. Updating An Existing Traffic Impact Study

A TIS requires updating when the amount or character of traffic is significantly different from an earlier study. Generally a TIS requires updating every two years. A TIS may require updating sooner in rapidly developing areas and not as often in slower developing areas. In these cases, consultation with Caltrans is strongly recommended.

III. SCOPE OF TRAFFIC IMPACT STUDY

Consultation between the lead agency, Caltrans, and those preparing the TIS is recommended before commencing work on the study to establish the appropriate scope. At a minimum, the TIS should include the following:

A. Boundaries of the Traffic Impact Study

All State highway facilities impacted in accordance with the criteria in Section II should be studied. Traffic impacts to local streets and roads can impact intersections with State highway facilities. In these cases, the TIS should include an analysis of adjacent local facilities, upstream and downstream, of the intersection (i.e., driveways, intersections, and interchanges) with the State highway.

⁴ A “lesser analysis” may include obtaining traffic counts, preparing signal warrants, or a focused TIS, etc.

B. Traffic Analysis Scenarios

Caltrans is interested in the effects of general plan updates and amendments as well as the effects of specific project entitlements (i.e., site plans, conditional use permits, sub-divisions, rezoning, etc.) that have the potential to impact a State highway facility. The complexity or magnitude of the impacts of a project will normally dictate the scenarios necessary to analyze the project. Consultation between the lead agency, Caltrans, and those preparing the TIS is recommended to determine the appropriate scenarios for the analysis. The following scenarios should be addressed in the TIS when appropriate:

1. When only a general plan amendment or update is being sought, the following scenarios are required:
 - a) Existing Conditions - Current year traffic volumes and peak hour LOS analysis of effected State highway facilities.
 - b) Proposed Project Only with Select Zone⁵ Analysis - Trip generation and assignment for build-out of general plan.
 - c) General Plan Build-out Only - Trip assignment and peak hour LOS analysis. Include current land uses and other pending general plan amendments.
 - d) General Plan Build-out Plus Proposed Project - Trip assignment and peak hour LOS analysis. Include proposed project and other pending general plan amendments.
2. When a general plan amendment is not proposed and a proposed project is seeking specific entitlements (i.e., site plans, conditional use permits, sub-division, rezoning, etc.), the following scenarios must be analyzed in the TIS:
 - a) Existing Conditions - Current year traffic volumes and peak hour LOS analysis of effected State highway facilities.
 - b) Proposed Project Only - Trip generation, distribution, and assignment in the year the project is anticipated to complete construction.
 - c) Cumulative Conditions (Existing Conditions Plus Other Approved and Pending Projects Without Proposed Project) - Trip assignment and peak hour LOS analysis in the year the project is anticipated to complete construction.
 - d) Cumulative Conditions Plus Proposed Project (Existing Conditions Plus Other Approved and Pending Projects Plus Proposed Project) - Trip assignment and peak hour LOS analysis in the year the project is anticipated to complete construction.
 - e) Cumulative Conditions Plus Proposed Phases (Interim Years) - Trip assignment and peak hour LOS analysis in the years the project phases are anticipated to complete construction.
3. In cases where the circulation element of the general plan is not consistent with the land use element or the general plan is outdated and not representative of current or future forecasted conditions, all scenarios from Sections III. B. 1. and 2. should be utilized with the exception of duplicating of item 2.a.

⁵ "Select zone" analysis represents a project only traffic model run, where the project's trips are distributed and assigned along a loaded highway network. This procedure isolates the specific impact on the State highway network.

IV. TRAFFIC DATA

Prior to any fieldwork, consultation between the lead agency, Caltrans, and those preparing the TIS is recommended to reach consensus on the data and assumptions necessary for the study. The following elements are a starting point in that consideration.

A. Trip Generation

The latest edition of the Institute of Transportation Engineers' (ITE) TRIP GENERATION report should be used for trip generation forecasts. Local trip generation rates are also acceptable if appropriate validation is provided to support them.

1. Trip Generation Rates – When the land use has a limited number of studies to support the trip generation rates or when the Coefficient of Determination (R^2) is below 0.75, consultation between the lead agency, Caltrans and those preparing the TIS is recommended.
2. Pass-by Trips⁶ – Pass-by trips are only considered for retail oriented development. Reductions greater than 15% requires consultation and acceptance by Caltrans. The justification for exceeding a 15% reduction should be discussed in the TIS.
3. Captured Trips⁷ – Captured trip reductions greater than 5% requires consultation and acceptance by Caltrans. The justification for exceeding a 5% reduction should be discussed in the TIS.
4. Transportation Demand Management (TDM) – Consultation between the lead agency and Caltrans is essential before applying trip reduction for TDM strategies.

NOTE: Reasonable reductions to trip generation rates are considered when adjacent State highway volumes are sufficient (at least 5000 ADT) to support reductions for the land use.

B. Traffic Counts

Prior to field traffic counts, consultation between the lead agency, Caltrans and those preparing the TIS is recommended to determine the level of detail (e.g., location, signal timing, travel speeds, turning movements, etc.) required at each traffic count site. All State highway facilities within the boundaries of the TIS should be considered. Common rules for counting vehicular traffic include but are not limited to:

1. Vehicle counts should be conducted on Tuesdays, Wednesdays, or Thursdays during weeks not containing a holiday and conducted in favorable weather conditions.
2. Vehicle counts should be conducted during the appropriate peak hours (see peak hour discussion below).
3. Seasonal and weekend variations in traffic should also be considered where appropriate (i.e., recreational routes, tourist attractions, harvest season, etc.).

C. Peak Hours

To eliminate unnecessary analysis, consultation between the lead agency, Caltrans and those preparing the TIS is recommended during the early planning stages of a project. In general, the TIS should include a morning (a.m.) and an evening (p.m.) peak hour analyses. Other peak hours (e.g., 11:30 a.m. to 1:30 p.m., weekend, holidays, etc.) may also be required to determine the significance of the traffic impacts generated by a project.

⁶ "Pass-by" trips are made as intermediate stops between an origin and a primary trip destination (i.e., home to work, home to shopping, etc.).

⁷ "Captured Trips" are trips that do not enter or leave the driveways of a project's boundary within a mixed-use development.

D. Travel Forecasting (Transportation Modeling)

The local or regional traffic model should reflect the most current land use and planned improvements (i.e., where programming or funding is secured). When a general plan build-out model is not available, the closest forecast model year to build-out should be used. If a traffic model is not available, historical growth rates and current trends can be used to project future traffic volumes. The TIS should clearly describe any changes made in the model to accommodate the analysis of a proposed project.

V. TRAFFIC IMPACT ANALYSIS METHODOLOGIES

Typically, the traffic analysis methodologies for the facility types indicated below are used by Caltrans and will be accepted without prior consultation. When a State highway has saturated flows, the use of a micro-simulation model is encouraged for the analysis (please note however, the micro-simulation model must be calibrated and validated for reliable results). Other analysis methods may be accepted, however, consultation between the lead agency, Caltrans and those preparing the TIS is recommended to agree on the data necessary for the analysis.

- A. Freeway Segments – Highway Capacity Manual (HCM)*, operational analysis
- B. Weaving Areas – Caltrans Highway Design Manual (HDM)
- C. Ramps and Ramp Junctions – HCM*, operational analysis or Caltrans HDM, Caltrans Ramp Metering Guidelines (most recent edition)
- D. Multi-Lane Highways – HCM*, operational analysis
- E. Two-lane Highways – HCM*, operational analysis
- F. Signalized Intersections⁸ – HCM*, Highway Capacity Software**, operational analysis, TRAFFIXTM**, Synchro**, see footnote 8
- G. Unsignalized Intersections – HCM*, operational analysis, Caltrans Traffic Manual for signal warrants if a signal is being considered
- H. Transit – HCM*, operational analysis
- I. Pedestrians – HCM*
- J. Bicycles – HCM*
- K. Caltrans Criteria/Warrants – Caltrans Traffic Manual (stop signs, traffic signals, freeway lighting, conventional highway lighting, school crossings)
- L. Channelization – Caltrans guidelines for Reconstruction of Intersections, August 1985, Ichiro Fukutome

*The most current edition of the Highway Capacity Manual, Transportation Research Board, National Research Council, should be used.

**NOTE: Caltrans does not officially advocate the use of any special software. However, consistency with the HCM is advocated in most but not all cases. The Caltrans local development review units utilize the software mentioned above. If different software or analytical techniques are used for the TIS then consultation between the lead agency, Caltrans and those preparing the TIS is recommended. Results that are significantly different than those produced with the analytical techniques above should be challenged.

⁸ The procedures in the Highway Capacity Manual "do not explicitly address operations of closely spaced signalized intersections. Under such conditions, several unique characteristics must be considered, including spill-back potential from the downstream intersection to the upstream intersection, effects of downstream queues on upstream saturation flow rate, and unusual platoon dispersion or compression between intersections. An example of such closely spaced operations is signalized ramp terminals at urban interchanges. Queue interactions between closely spaced intersections may seriously distort the procedures in" the HCM.

VI. MITIGATION MEASURES

The TIS should provide the nexus [Nollan v. California Coastal Commission, 1987, 483 U.S. 825 (108 S.Ct. 314)] between a project and the traffic impacts to State highway facilities. The TIS should also establish the rough proportionality [Dolan v. City of Tigard, 1994, 512 U.S. 374 (114 S. Ct. 2309)] between the mitigation measures and the traffic impacts. One method for establishing the rough proportionality or a project proponent's equitable responsibility for a project's impacts is provided in Appendix "B." Consultation between the lead agency, Caltrans and those preparing the TIS is recommended to reach consensus on the mitigation measures and who will be responsible.

Mitigation measures must be included in the traffic impact analysis. This determines if a project's impacts can be eliminated or reduced to a level of insignificance. Eliminating or reducing impacts to a level of insignificance is the standard pursuant to CEQA and the National Environmental Policy Act (NEPA). The lead agency is responsible for administering the CEQA review process and has the principal authority for approving a local development proposal or land use change. Caltrans, as a responsible agency, is responsible for reviewing the TIS for errors and omissions that pertain to State highway facilities. However, the authority vested in the lead agency under CEQA does not take precedence over other authorities in law.

If the mitigation measures require work in the State highway right-of-way an encroachment permit from Caltrans will be required. This work will also be subject to Caltrans standards and specifications. Consultation between the lead agency, Caltrans and those preparing the TIS early in the planning process is strongly recommended to expedite the review of local development proposals and to reduce conflicts and misunderstandings in both the local agency CEQA review process as well as the Caltrans encroachment permit process.

Excerpts from East Otay Mesa Specific Plan



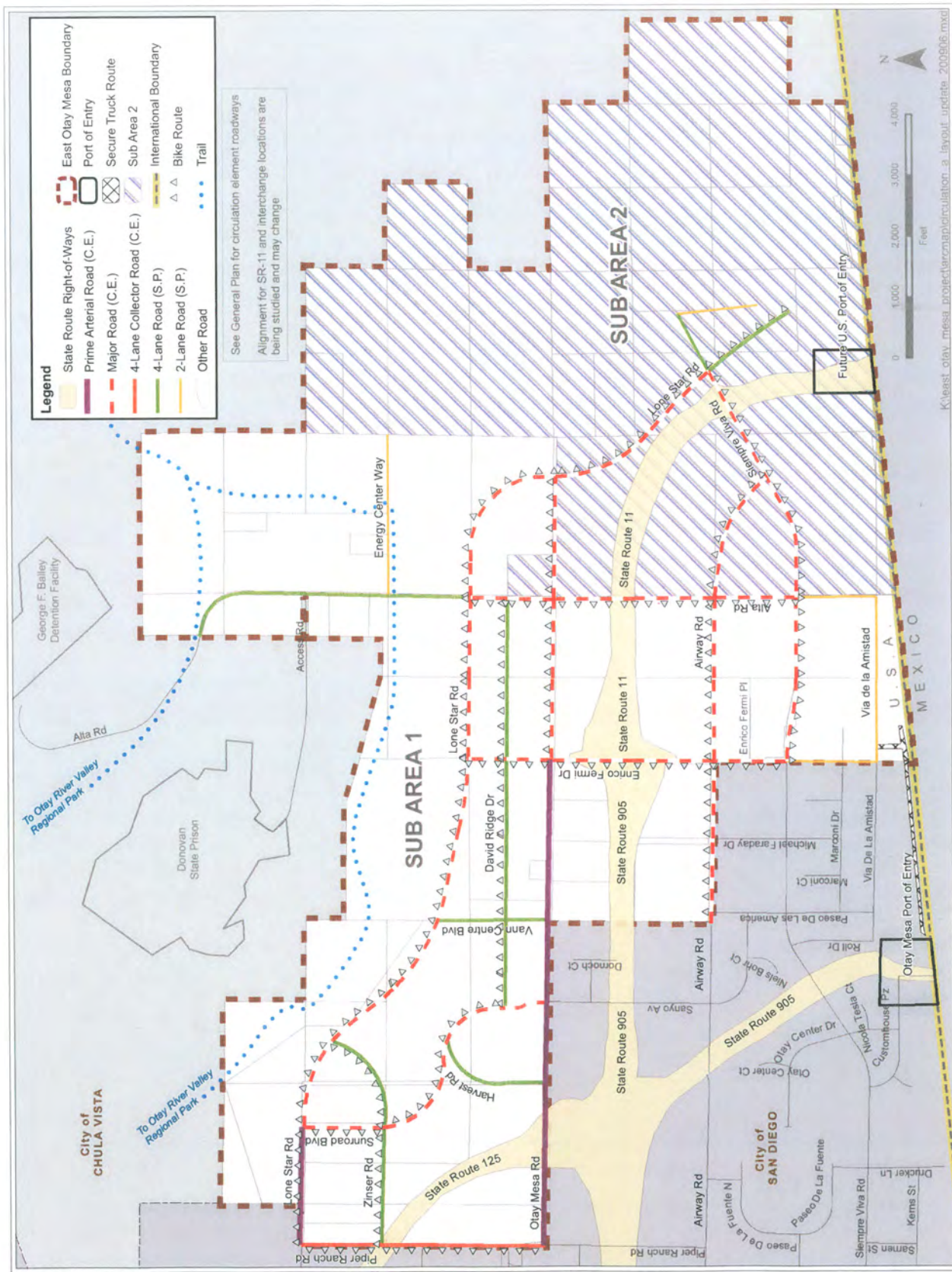
COUNTY
OF
SAN DIEGO

EAST
OTAY MESA
BUSINESS PARK
SPECIFIC PLAN

SUBAREA 1

As Amended by
SPA 06-005
April 8, 2009

Figure 2.2-1 Circulation Plan





COUNTY
OF
SAN DIEGO

EAST
OTAY MESA
BUSINESS PARK
SPECIFIC PLAN

SUBAREA 2

As Amended by
GPA06-013 & SPA06-003
August 1, 2007 (1)

Implementation: The County will coordinate with Caltrans to promote the development of SR-905 from the existing and planned international border crossings to I-805.

2.3.3 Local Roads

Planning Framework

The magnitude of existing and projected traffic volumes on a particular street represents the primary element of the hierarchy in an overall circulation system. The transportation system must also provide a balanced linkage between high traffic corridors and lower volume streets. The Circulation Element has proposed an on-site road system to provide adequate access to all existing and future land uses in the Specific Plan Area. The system consists of Industrial/Commercial Roads, Industrial/Commercial Collectors, Major Roads, Prime Arterials and Freeways.

Future Travel Forecasts

In order to plan for the future travel demand in East Otay Mesa, traffic forecasts were generated for buildout of the Specific Plan Land Use Element. The traffic forecasts incorporate the type and density of future land uses, the location and potential interaction of various land use types, as well as specific characteristics and capacity of each of the area's future roads.

The traffic forecasts were developed by SANDAG as part of the South Bay traffic model, which is based on the Series VII Regional Traffic Model. The South Bay traffic model incorporates the projected land uses identified in the East Otay Mesa area, as well as land use designations in the most recent General Plans of the City of San Diego, the City of Chula Vista, and the County of San Diego.

The model also incorporates the anticipated development for the Otay Ranch. From a regional planning perspective, there is a land use interdependence between Otay Ranch and East Otay Mesa projects. East Otay Mesa is designated as a major industrial and employment area with the exception of the limited rural residential uses in the eastern and northern hillside areas. Lying directly north of the East Otay Mesa, Otay Ranch is proposed to include a substantial residential component. The Specific Plan recognizes that to the extent that housing costs on Otay Ranch and types of employment (and income) in East Otay Mesa are compatible, there could be a major trip-making potential, allowing for some regional jobs/housing balance between these two areas.

Proposed Streets

Figure 2-12, Circulation Plan, shows the proposed road classifications. These classifications have been developed to serve the buildout traffic needs, and are based on the forecasts conducted in conjunction with the development of the Specific Plan. To determine the form of this network, it was necessary to consider the existing street network, physical constraints on the Mesa, new regional routes, and the potential for links with facilities in neighboring jurisdictions. Road locations and classifications are also determined by the existing and proposed land uses, their spatial relationships, and the projected traffic demand.

The proposed circulation network will provide internal circulation throughout the Specific Plan Area as well as access to the regional freeway system and major City of San Diego streets. Lone Star Road, Otay Mesa Road, and Siempre Viva Road are designated as Prime Arterials to carry Otay Mesa traffic east-west to the Freeway facilities. Alta Road is also designated as a Prime Arterial north of Lone Star Road to serve traffic

heading north to Otay Ranch. As explained previously, due to the potential existence of sensitive environmental resources in the Otay River Valley, this facility will be considered at the last phase of the project, only after all TDM and TSM strategies have been applied. Airway Road and each of the north/south roads are designated as Major Roads, two-lane Industrial/Commercial Roads, or four-lane Industrial/Commercial Collectors in the Circulation Plan. Each of these roads serves the internal circulation demand, as well as distributing the regional traffic from the Prime Arterials to the land uses within the Mesa.

The proposed streets have been developed assuming that SR-905 would be constructed east to SR-125. Possible extension of a freeway east of SR-125 to a future international border crossing has also been discussed. If this extension through the Specific Plan Area is ever built there would most likely be interchanges located at Enrico Fermi Drive and Loop Road. Also, the eastbound off-ramp at Otay Mesa Road would be eliminated. The freeway extension and location of freeway interchanges on these facilities would alter travel patterns and change the function of these road. If the freeway was to be extended, the following roads would have to be upgraded from Major to Prime. This would require a General Plan Amendment to modify the County Circulation Element.

- Loop Road - Airway Road to Alta Road
- Enrico Fermi Drive - Airway Road to Otay Mesa Road

In order to evaluate the projected operating conditions, the projected average daily traffic was compared to the road capacity for each of the Circulation Element roads. This allows for the evaluation of the operating Level of Service projected for each road. As in the case of the evaluation of

existing conditions, capacity or recommended maximum daily traffic levels were taken from the street capacity standards adopted by the various jurisdictions.

If all East Otay Mesa Specific Plan Circulation Element roads are built to the classifications recommended on Figure 2-12, they are all projected to operate consistent with the Public Facility Element standards, except for Otay Mesa Road between the SR-125/SR-905 Ramps and Sanyo Drive. This segment of the road west of Harvest Road is projected to operate at LOS E. To mitigate this impact, two additional auxiliary lanes are added to this segment, west of Harvest Road, to accommodate turning movements and through traffic. The projected level of service would be improved to LOS D. The proposed streets for the East Otay Mesa Specific Plan are expected to effectively serve the projected traffic associated with the level and type of development identified in the Land Use Element of the Specific Plan.

Local Road Policies

Policy C-3: Promote the development of local road circulation facilities to adequately serve the planned land uses in the East Otay Mesa Specific Plan Area.

Implementation: The local on-site road system indicated in the Circulation Plan will be implemented by the property owners through the acquisition of land and construction of the "general interest portion" of Circulation Plan roads pursuant to County policies.

Through the discretionary permit process, property owners will be required to dedicate and improve the "local interest portion" of the Circulation Plan roads.

Policy C-4: *For the proposed emergency road along the international border, property owners shall reserve right-of-way, improve the road and provide reciprocal easements.*

Implementation: Property owners along the international border shall reserve a 30-foot right-of-way joint access road and utility easement. This will accommodate a 20-foot road along the Mexican border. This joint access border road conforms to the County's Road Standard Classifications for an Alley for pavement width requirements.

2.3.4 Local Road Standards

Freeways: The planning, design and construction of freeways in California is undertaken by Caltrans. As a result, they are not within the purview of a city or county. Nonetheless, the County's General Plan and the East Otay Mesa Specific Plan play an important role in the selection of potential freeway routes by determining, through land use proposals, the number of lanes required to carry projected traffic loads, as well as possible participation of County/City property owners in the financing of freeway improvements. The currently planned SR-125 and SR-905 freeways are included in the analysis and discussion of the circulation system for the East Otay Mesa Specific Plan.

Prime Arterial: These facilities handle from 30,000 to 50,000 vehicles per day, and have right of way for six lanes. Throughout East Otay Mesa, curb parking will be prohibited. Medians will be incorporated to separate opposing flows. No direct property access will be provided. Signalized intersections will be used for ingress and egress. Signalized intersections will not be less than 600 feet apart.

Separate left-turn lanes at major signalized intersections will be mandatory, with single or double left-turn lanes provided depending on the turning volume. Where feasible, a minimum of 300 feet plus appropriate taper would be provided for the additional left-turn lane. Separate right-turn lanes which also serve as bus loading areas will be considered at locations of high turn volumes.

Major Road: Major Roads handle trips in the magnitude of 25,000 to 35,000 vehicles per day. Major roads have four through lanes, along with single or double left-turn lanes at major signalized intersections. The required length and taper for an additional left turn lane is the same as with the Prime Arterial.

Industrial/Commercial Collector: This type of road has two travel lanes in each direction and provides access to abutting lots zoned for industrial or commercial purposes. They also collect traffic from intersecting Industrial/Commercial Roads which provide access to property which has an area of more than 5 acres and is zoned for commercial purposes, or which will be projected to carry more than 4,500 average daily vehicular trips. Industrial/Commercial Collectors shall be provided as follows:

1. Right-of-way shall be 88 feet.
2. Pavement width between the curb faces shall be 68 feet.
3. Knuckles may not be used.

Industrial/Commercial Road: This type of road has one travel lane in each direction and provides access to abutting industrial/commercial lots where the projected average daily vehicular trips are less than 4,500. Industrial/Commercial Roads shall be provided as follows:

1. Right-of-way width shall be 72 feet.
2. Pavement width between the curb faces shall be 52 feet.
3. Knuckles may be used in accordance with County standards.

Industrial/Commercial Cul-de-sac Road: An Industrial/Commercial Cul-de-sac is a two-lane road which terminates in a cul-de-sac and provides access to abutting lots zoned for industrial or commercial purposes. Cul-de-sac Roads are not specifically designated in the Circulation Plan. Industrial/Commercial Cul-de-sacs shall be used where the projected average daily vehicular trips do not exceed 1,000. Industrial/Commercial Cul-de-sac roads shall be provided as follows:

1. Right-of-way width shall be 72 feet.
2. Pavement width between the curb faces shall be 52 feet.
3. The maximum length shall be 1,200 feet.
4. The cul-de-sac shall have a minimum 60 feet property line radius.
5. The cul-de-sac shall be paved to a radius of 50 feet.
6. Knuckles may be used in accordance with County standards.

Border Joint Access Road: This road shall provide access along the international border.

1. Right-of-way width shall be 30 feet.
2. Pavement width between curb faces shall be 20 feet.
3. Knuckles may be used in accordance with County standards.

Truck Routes

The truck route system follows the arterial street system. Due to the overwhelming industrial character of the Specific Plan Area, all streets will

serve as truck routes, except that the local streets providing access to the residences located in the eastern hillsides will not be designated as truck routes.

Streets and driveways properly designed for typical traffic conditions can be inadequate where there is a significant amount of truck traffic. Industrial/Commercial Collector road standards are recommended for all four-lane non-Circulation Element roads, and the Industrial/Commercial Road Standards are recommended for all two-lane local roads. The Industrial/Commercial Collector roads allow slightly wider lanes to allow for the large turning radius and other operational requirements of large trucks.

In order to minimize impediments for truck operation and allow access for each of the land uses in East Otay Mesa, appropriate design standards shall be followed to accommodate the needs of truck traffic, access and loading activities. In addition, truck and trailer parking provisions shall be made on site for each of the proposed developments in order to avoid the need for street parking by trucks.

Intersections

In general, at the intersection of Circulation Element roads, the right-of-way and improvement requirements of each leg of the intersection may be changed to the next higher road classification, or to a special intersection design based on a traffic analysis of the intersection. As a rule, all intersections shall be planned four-way access where possible. The following standards are recommended for each of the Circulation Element roads:

Prime Arterial - An additional 12 feet of right-of-way shall be required to allow the provision of

dual left-turn lanes. Minimum length of the additional left-turn lane shall be 300 feet plus appropriate taper.

Major Road - Where the left-turn traffic volume is estimated to exceed 300 vehicles at peak hour, an additional 12 feet of right-of-way shall be required for provision of a dual left-turn lane. Minimum length of the additional left-turn lane shall be 300 feet plus appropriate taper.

Industrial/Commercial Collector - Where an Industrial/Commercial Collector intersects a Circulation Element road or where a left turn lane is specified, an additional 14 feet of right-of-way shall be required to provide a left turn lane. Minimum length of the additional left-turn lane shall be 250 feet plus appropriate taper.

Industrial/Commercial Road - Where an Industrial/Commercial Road intersects another Circulation Element road or where a left-turn lane is specified, an additional 14 feet of right-of-way shall be required to provide a left-turn lane. Minimum length of the additional left-turn lane shall be 200 feet plus appropriate taper.

All intersections and access roads on Circulation Element roads, Industrial/Commercial Collectors, and Industrial/Collector Roads shall provide a minimum curb return radius of 60 feet and a minimum property line radius of 50 feet due to the large amount of truck traffic projected in the East Otay Mesa area. Where the angle of intersection is less than 90 degrees, or where a sight distance problem may be anticipated, an increased property line radius may be required. For Circulation Element roads, installation of traffic signals will be determined by traffic warrants.

Intersection Spacing and Alignment

Minimum distance between roads entering into other roads shall be as follows:

1. Non-Circulation Element roads entering into other Non-Circulation Element roads shall have their centerlines separated by at least 200 feet.
2. Non-Circulation Element roads entering into a Circulation Element road shall have their centerlines separated by at least 300 feet.
3. Circulation Element roads entering into other Circulation Element roads shall have their centerlines separated by at least 600 feet.

The angle between centerlines of intersecting roads shall be as near a right angle as possible, but in no case less than 70 degrees or greater than 110 degrees. Where the angle between the centerlines is between 70 and 80 degrees or between 100 and 110 degrees, there shall be required on the acute angle corner of the intersection a taper to accommodate right-hand turning movements. Said taper shall be set back 5 feet at the exiting point of the curb return and extend 40 feet in such a manner as to safely allow completion of the right-hand turning movement.

The maximum grade at any intersection of two streets shall be 6 percent within the intersection and for at least 20 feet beyond the right-of-way of the intersecting street.

Where two road centerlines intersect, the lower classified road is not to intersect the primary road with a curve. Instead, the alignment of the lower classified road must intersect the primary road in a straight line for a length not less than the full width of the primary road's right-of-way.

Driveway Widths and Locations

Properties having less than 200 feet of frontage shall be permitted two driveways if the lot has at least 150 feet of frontage; the maximum width shall be 30 feet, and the minimum spacing shall be 60 feet between driveways.

Driveway areas for properties having 200 feet or more of frontage shall be limited to one driveway per 100 feet of frontage; the maximum width shall be 30 feet, and the minimum spacing shall be 60 feet between driveways.

On corner lots, driveways shall be located at least 30 feet from the end of the curb radius.

Local Road Policy

Policy C-5: Public road design and private developments shall follow all road standards of the Specific Plan.

Implementation: The County shall require construction of all public roads according to standards of the Specific Plan. The County shall review all discretionary permit applications for consistency with the Circulation Element of the Specific Plan.

2.3.5 Coordination with the City of San Diego

There are several locations in the Specific Plan Area where the Circulation Element roads vary between the City and County jurisdictions, beyond the differences in classification names. In some instances, the designated road classification and recommended number of lanes is different for the same facility on either side of the jurisdictional boundary. Each of these facilities is discussed in the following paragraphs.

Lone Star Road is needed as a six-lane Primary Arterial (City terminology) from La Media Road to Alta Road. In the City of San Diego, west of Piper Ranch Road, Lone Star Road is designated as a four-lane Major in the Circulation Element of the City's Community Plan. Circulation analysis indicates that a six-lane Primary Arterial would be needed extending west from Piper Ranch Road into the City of San Diego, due to the proposed S2 alignment of the SR-125 and the interchange with Lone Star Road near La Media Road. The traffic analysis suggests that six-lane Primary Arterial standards may be appropriate for Lone Star Road from Piper Ranch Road through the interchange to La Media Road.

Otay Mesa Road is needed as a six-lane Prime Arterial in East Otay Mesa from Piper Ranch Road to Alta Road. The City designates Otay Mesa Road as a six-lane Primary Arterial between Piper Ranch Road and the SR-125 Tollway. However, the City designates Otay Mesa Road as a four-lane Major east of SR-125. Circulation analysis indicates that Otay Mesa Road should be constructed as a six-lane Primary Arterial east of SR-125. In fact, between the westerly most SR-125 ramp terminal and Sanyo Drive, additional lanes will be needed to accommodate heavy traffic demand. As previously described, an eight-lane section plus turn lanes will be needed.

Siempre Viva Road is designated in the Circulation Plan as a four-lane Major Road east of Enrico Fermi drive. West of Enrico Fermi Drive the City of San Diego designates Siempre Viva Road as a four-lane Major, but transitioning to a six-lane Primary Arterial approaching Paseo de Las Americas. Furthermore, detailed design of Siempre Viva Road at SR-125 will need to incorporate proper transitioning between six lanes and the freeway by the provision of the appropriate turning lanes.

County's Guidelines for Determining Significance

COUNTY OF SAN DIEGO

GUIDELINES FOR DETERMINING SIGNIFICANCE

TRANSPORTATION AND TRAFFIC



LAND USE AND ENVIRONMENT GROUP

Department of Planning and Land Use
Department of Public Works

Second Revision
June 30, 2009

First Modification
February 19, 2010

EXPLANATION

These Guidelines for Determining Significance for Transportation and Traffic and information presented herein shall be used by County staff in their review of discretionary projects and environmental documents pursuant to the California Environmental Quality Act (CEQA). These Guidelines present a range of quantitative, qualitative, and performance levels for particular environmental effects. Normally, (in the absence of substantial evidence to the contrary), non-compliance with a particular standard stated in these Guidelines will usually mean the project will result in a significant effect, whereas compliance will normally mean the effect will be determined to be "less than significant." Section 15064(b) of the State CEQA Guidelines states:

"The determination whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on factual and scientific data. An ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting."

These Guidelines assist in providing a consistent, objective and predictable evaluation of significant effects. These Guidelines are not binding on any decision-maker and should not be substituted for the use of independent judgment to determine significance or the evaluation of evidence in the record. The County reserves the right to request further, project specific, information in its evaluation of a project's environmental effects and to modify these Guidelines in the event a scientific discovery or factual data alters the common application of a Guideline. In addition, evaluations to verify the applicability of the significance guidelines for individual project conditions may be necessary. Additional evaluations may include analysis of vehicle headways, speeds, average gaps, queues, delay, or other factors.

4.0 GUIDELINES FOR DETERMINING SIGNIFICANCE

The following significance guidelines should guide the evaluation of whether a significant impact to transportation and traffic will occur as a result of project implementation. A project will generally be considered to have a significant effect if it proposes any of the following, absent specific evidence to the contrary. Conversely, if a project does not propose any of the following, it will generally not be considered to have a significant effect on transportation and traffic, absent specific evidence of such an effect.

This section provides guidance for evaluating adverse environmental effects a project may have in relation to traffic and transportation. The guidelines for determining significance are organized into eight categories: road segments, intersections, two-lane highways, ramps, congestion management plan, hazards due to an existing transportation design feature, hazards to pedestrians or bicyclists, and public transportation.

Land Development Projects

Land Development projects are projects that may result in an increase in the density or intensity or use on a parcel or parcels of land. These projects include, but are not limited to subdivisions, use permits, rezones and general plan amendments. Land development projects, typically, require discretionary approval. Due to the increased intensity of uses, land development projects generate additional traffic onto the County's road network and can contribute towards traffic congestion. A traffic impact study is often required to fully assess potential traffic impacts that may result from implementation of the proposed project.

Road Improvement Projects

Road improvement projects are projects that can affect transportation system operations; including level of service and other performance measures. Projects may consist of increasing road capacity or improving the traffic operations on the County's road network. This section refers to stand alone road improvement projects that are not improvements associated with a proposed development. These projects are typically publicly initiated. Road improvement projects do not generate additional trips but, in some cases, may cause a redistribution of trips on the County's road network. Road improvement projects are typically one or more of the following; road widening, construction of new road, intersection improvements and operational improvements/road maintenance. Additional guidance on how to evaluate Publicly Initiated Road Improvement Projects is included as Attachment B of the Report Format and Content Requirements.

4.1 Road Segments

Pursuant to the County's General Plan Public Facilities Element (PFE Pg. XII-4-18), new development must provide improvements or other measures to mitigate traffic impacts to avoid:

- (a) Reduction in Level of Service (LOS) below "C" for on-site Circulation Element roads;
- (b) Reduction in LOS below "D" for off-site and on-site abutting Circulation Element roads; and
- (c) "Significantly impacting congestion" on roads that operate at LOS "E" or "F". If impacts cannot be mitigated, the project cannot be approved unless a statement of overriding findings is made pursuant to the State CEQA Guidelines. The PFE, however, does not include specific guidelines for determining the amount of additional traffic that would "significantly impact congestion" on such roads.

The County has created the following guidelines to evaluate likely motor vehicle traffic impacts of a proposed project for road segments and intersections serving that project site, for purposes of determining whether the development would "significantly impact congestion" on the referenced LOS E and F roads. The guidelines are summarized in Table 1. The levels in Table 1 are based upon average operating conditions on County roadways. It should be noted that these levels only establish general guidelines, and that the specific project location must be taken into account in conducting an analysis of traffic impact from new development.

On-site Circulation Element Roads

PFE, Transportation, Policy 1.1 states that "new development shall provide needed roadway expansion and improvements on-site to meet demand created by the development, and to maintain a Level of Service C on Circulation Element Roads during peak traffic hours". Pursuant to this policy, a significant traffic impact would result if:

- ***The additional or redistributed ADT generated by the proposed land development project will cause on-site Circulation Element Roads to operate below LOS C during peak traffic hours except within the Otay Ranch and Harmony Grove Village plans as specified in the PFE, Implementation Measure 1.1.2.***

Off-site Circulation Element Roads

PFE, Transportation, Policy 1.1 also addresses offsite Circulation Element roads. It states, "new development shall provide off-site improvements designed to contribute to the overall achievement of a Level of Service D on Circulation Element Roads". Implementation Measure 1.1.3 addresses projects that would significantly impact

congestion on roads at LOS E or F. It states that new development that would significantly impact congestion on roads operating at LOS E or F, either currently or as a result of the project, will be denied unless improvements are scheduled to attain a LOS to D or better or appropriate mitigation is provided. The following significance guidelines define a method for evaluating whether or not increased traffic volumes generated or redistributed from a proposed project will “significantly impact congestion” on County roads, operating at LOS E or F, either currently or as a result of the project.

Traffic volume increases from public or private projects that result in one or more of the following criteria will have a significant traffic volume or level of service traffic impact on a road segment:

- ***The additional or redistributed ADT generated by the proposed project will significantly increase congestion on a Circulation Element Road or State Highway currently operating at LOS E or LOS F, or will cause a Circulation Element Road or State Highway to operate at a LOS E or LOS F as a result of the proposed project as identified in Table 1, or***
- ***The additional or redistributed ADT generated by the proposed project will cause a residential street to exceed its design capacity.***

Table 1
Measures of Significant Project Impacts to Congestion on Circulation Element Road Segments:
Allowable Increases on Congested Road Segments

Level of service	Two-lane road	Four-lane road	Six-lane road
LOS E	200 ADT	400 ADT	600 ADT
LOS F	100 ADT	200 ADT	300 ADT
Notes: 1. By adding proposed project trips to all other trips from a list of projects, this same table must be used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project that contributes additional trips must mitigate a share of the cumulative impacts. 2. The County may also determine impacts have occurred on roads even when a project's traffic or cumulative impacts do not trigger an unacceptable level of service, when such traffic uses a significant amount of remaining road capacity.			

LOS E

The first significance criterion listed in Table 1 addresses roadways presently operating at LOS E. Based on these criteria, an impact from new development on an LOS E road would be reached when the increase in average daily trips (ADT) on a two-lane road exceeds 200 ADT. Using SANDAG's "Brief Guide for Vehicular Traffic Generation Rates for the San Diego Region" for most discretionary projects this would generate less than 25 peak hour trips. On average, during peak hour conditions, this would be only one additional car every 2.4 minutes.

Therefore, the addition of 200 ADT, in most cases, would result in changes to traffic flow that would not be noticeable to the average driver and therefore would not constitute a

significant impact on the roadway. Significance criteria were also established for 4-lane and 6-lane roads operating at LOS E and are based upon the above 24 hour ADT significance criterion established for two-lane roads. The two-lane road criterion was doubled to determine impacts to four-lane roads and tripled to determine impacts to six-lane roads. This was considered to be conservative since the 24 hour per lane road capacity for a 4-lane road is more than double that of a two-lane road and the per lane capacity of a six-lane road is more than triple that of the two-lane road. For LOS E roads, the additional significance criteria are 400 ADT for a 4-lane road and 600 ADT for a 6-lane road.

Similar to the criteria for two-lane roads, 400 ADT for a 4-lane road and 600 ADT for a 6-lane road criteria would generate less than 25 per lane peak hour trips for most discretionary projects. On average, during peak hour conditions, this would be only one additional car per lane every 2.4 minutes. The addition of 200 ADT per lane (400 ADT for a 4 lane road or 600 ADT for a 6 lane road), in most cases, would result in changes to traffic flow that would not be noticeable to the average driver and therefore would not constitute a significant impact on the roadway. Road capacities based upon level of service for County roads can be found in the County's Public Road Standards, available online at <http://www.sdcounty.ca.gov/dpw/land/rte/locs.html>.

LOS F

The second significance criteria listed in Table 1 addresses roadways presently operating at LOS F. Under LOS F congested conditions, small changes and disruptions to the traffic flow on County Circulation Element Roads can have a greater effect on traffic operations when compared to other LOS conditions. In order to better account for potential effects of increased traffic on LOS F roads more stringent significance criteria was established when compared to that for LOS E. Based on this guidance, an impact from new development on an LOS F road would be reached when the increase in average daily trips (ADT) on a two-lane road exceeds 100. Again, using SANDAG's "Brief Guide for Vehicular Traffic Generation Rates for the San Diego Region" for most discretionary projects this would generate less than 12.5 peak hour trips. On average, during peak hour conditions, this would be only one additional car every 4.8 minutes.

The addition of 100 ADT, in most cases, would not be noticeable to the average driver and therefore would not constitute a significant impact on the roadway. The same approach used to determine significance criteria for 4-lane and 6-lane roads operating at LOS E was used to determine appropriate significance criteria for four-lane and six-lane roads operating at LOS F. Based on this approach, the significance criteria for a four-lane road (200 ADT) and for a six-lane road (300 ADT) would generate less than 12.5 per lane peak hour trips for most discretionary projects. On average, during peak hour conditions, this would be only one additional car per lane every 4.8 minutes. The addition of 100 per lane ADT (200 ADT for a 4-lane road and 300 ADT for a 6-lane road) would, in most cases, not be noticeable to the average driver and therefore would not constitute a significant impact on the roadway.

In summary, under extremely congested LOS F conditions, small changes and disruptions to the traffic flow can significantly affect traffic operations and additional project traffic can increase the likelihood or frequency of these events. Therefore, the LOS F ADT significance criteria was set at 100 ADT (50% of the LOS E criterion) to provide a higher level of assurance that the traffic allowed under the criterion would not significantly impact traffic operation on the road segment.

Non-Circulation Element Residential Streets

Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots and not to carry through traffic, however, for projects that will substantially increase traffic volumes on residential streets, a comparison of the traffic volumes on the residential streets with the recommended design capacity must be provided. Recommended design capacities for residential non-Circulation Element streets are provided in the San Diego County Public and Private Road Standards. Traffic volume that exceeds the design capacity on residential streets may impact residences and should be analyzed on a case-by-case basis.

4.2 Intersections

This section provides guidance for evaluating adverse environmental effects a project may have on signalized and unsignalized intersections. Table 2 summarizes significant project impacts for signalized and unsignalized intersections.

Table 2
Measures of Significant Project Impacts to Congestion on Intersections:
Allowable Increases on Congested Intersections

Level of Service	Signalized	Unsignalized
LOS E	Delay of 2 seconds or less	20 or less peak hour trips on a critical movement
LOS F	Either a Delay of 1 second, or 5 peak hour trips or less on a critical movement	5 or less peak hour trips on a critical movement
Notes: <ol style="list-style-type: none"> 1. A critical movement is an intersection movement (right turn, left turn, through-movement) that experiences excessive queues, which typically operate at LOS F. Also if a project adds significant volume to a minor roadway approach, a gap study should be provided that details the headways between vehicles on the major roadway. 2. By adding proposed project trips to all other trips from a list of projects, these same tables are used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project is responsible for mitigating its share of the cumulative impact. 3. The County may also determine impacts have occurred on roads even when a project's direct or cumulative impacts do not trigger an unacceptable level of service, when such traffic uses a significant amount of remaining road capacity. 4. For determining significance at signalized intersections with LOS F conditions, the analysis must evaluate both the delay <u>and</u> the number of trips on a critical movement, exceedance of either criteria result in a significant impact. 		

4.2.1 Signalized

Traffic volume increases from public or private projects that result in one or more of the following criteria will have a significant traffic volume or level of service traffic impact on a signalized intersection:

- *The additional or redistributed ADT generated by the proposed project will significantly increase congestion on a signalized intersection currently operating at LOS E or LOS F, or will cause a signalized intersection to operate at a LOS E or LOS F as identified in Table 2.*
- *Based upon an evaluation of existing accident rates, the signal priority list, intersection geometrics, proximity of adjacent driveways, sight distance or other factors, the project would significantly impact the operations of the intersection.*

LOS E

The significance criterion for signalized intersections identified in Table 2 allows an increase in the overall delay at an intersection operating at LOS E of two seconds. This is consistent with the capacity limit contained in the SANDAG's CMP and guidelines established by the City of San Diego. A delay of two seconds is a small fraction of the typical cycle length for a signalized intersection that ranges between 60 and 120 seconds. The likelihood of increased queues forming due to the additional two seconds of delay is low. Therefore, an increased wait time of two seconds, on average, would result in changes to traffic flow that would not be noticeable to the average driver. Therefore the significance guideline for intersections operating at LOS E is 2 seconds.

LOS F

The primary significance criterion for signalized intersections operating at LOS F conditions was based upon increased delay at the intersection. Under LOS F congested conditions, small changes and disruptions to the traffic flow to signalized intersections can have a greater effect on overall intersection operations when compared to other LOS conditions. In order to better account for potential effects of increased traffic at signalized intersections operating at LOS F, a more stringent guideline was established when compared to signalized intersection operating at LOS E. A significance guideline of an increased delay of 1 second was established for signalized intersections operating at LOS F. An increase in the overall delay at an intersection of one second, on average, would result in changes to traffic flow that would not be noticeable to the average driver. Therefore the significance guideline for intersections operating at LOS F is 1 second.

Signalized intersections operating at LOS F also have the potential for substantial queuing at specific turning movements that may detrimentally effect overall intersection and/or road segment operations. Thus, an increase of peak hour trips to a critical move was also established as a secondary significance criterion for signalized intersections. A critical movement would be a movement or a lane at an intersection that is experiencing queuing or substantial delay and is affecting the overall operation of the

intersection. The increase in peak hour trips to a critical move is a measurement of how many cars can be added to an existing queue. The addition of more than five trips (peak hour) per critical movement will normally be considered a significant impact. This significance criterion was selected because the five or less additional trips spread out over the peak hour would not significantly increase the length of an existing queue and would not be noticeable to the average driver (5 peak hour trips equals one trip every 12 minutes or 720 seconds).

For LOS F intersections, the 5 peak hour trips to a critical movement would not be noticeable to the average driver since the one additional trip during the 12 minute interval on average would clear the traffic signal cycles well within the 12 minute period. It should also be noted that if the 5 additional peak hour trips arrived at the same time these trips would also clear the traffic cycle and existing queue lengths would be re-established.

4.2.2 Unsignalized

Traffic volume increases from public or private projects that result in one or more of the following criteria will have a significant impact to an unsignalized intersection as listed in Table 2 and described as text below:

- *The additional or redistributed ADT generated by the proposed project will add 21 or more peak hour trips to a critical movement of an unsignalized intersection, and cause an unsignalized intersection to operate below LOS D, or*
- *The additional or redistributed ADT generated by the proposed project will add 21 or more peak hour trips to a critical movement of an unsignalized intersection currently operating at LOS E, or*
- *The additional or redistributed ADT generated by the proposed project will add 6 or more peak hour trips to a critical movement of an unsignalized intersection, and cause the unsignalized intersection to operate at LOS F, or*
- *The additional or redistributed ADT generated by the proposed project will add 6 or more peak hour trips to a critical movement of an unsignalized intersection currently operating at LOS F, or*
- *Based upon an evaluation of existing accident rates, the signal priority list, intersection geometrics, proximity of adjacent driveways, sight distance or other factors, the project would significantly impact the operations of the intersection.*

The operating parameters and conditions for unsignalized intersections differ dramatically from those of signalized intersections. Very small volume increases on one

leg or turn and/or through movement of an unsignalized intersection can substantially affect the calculated delay for the entire intersection. As noted in Table 2 on page 15, significance criteria for unsignalized intersections are based upon a minimum number of trips added to a critical movement at an unsignalized intersection.

LOS E

The significance guidelines for unsignalized intersections identify a minimum number of trips added to a critical movement at an unsignalized intersection. Since the operations of unsignalized intersections under congested conditions are heavily influenced by traffic volume increases on critical moves, the significance guidelines for unsignalized intersections were based upon the number of trips added to a critical movement. This guideline directly relates to the number of vehicles that can be added to an existing queue that forms at the intersection. A significance criteria of (21) twenty-one or more trips (peak hour) per critical movement was used for LOS E conditions. Although delays drivers experience under LOS E condition may be noticeable, they are not yet considered unacceptable. Twenty trips spread out over the peak hour would not likely cause the intersection delay or existing queue lengths to become unacceptable. The twenty trips (peak hour) would not be noticeable to the average driver.

The operations of unsignalized intersections under congested conditions are heavily influenced by traffic volume increases on critical moves. Therefore, the significance guidelines for unsignalized intersections are based upon the number of peak hour trips added to a critical movement at that intersection. This guideline examines the number of vehicles that may be added to an existing queue that forms at the intersection by the additional traffic generated by a project. In LOS E situations, the delays that drivers experience are noticeable, but are not considered excessive. A peak hour increase of twenty trips to the critical movement of an unsignalized intersection would be, on average, one additional car every 3.0 minutes or 180 seconds. Assuming the average wait time for a vehicle in the critical movement queue is less than 3.0 minutes, which is typical for LOS E condition, this would not be noticeable to the average driver and would not be considered a significant impact.

LOS F

For LOS F conditions, a significance level of 6 or more trips (peak hour) per critical movement was used. Five trips or less spread out over the peak hour would not significantly increase the length of an existing queue and would not be noticeable to the average driver. For example, 5 trips spread out over an hour would be one car every 12 minutes. This typically exceeds the average wait time in the queue and would not be noticeable to the average driver.

4.3 Two-Lane Highways

This section provides level of service impact guidelines for State highways and County arterials operating as two-lane highways.

Several designated County Circulation Element Roads are State highways that are managed and maintained by Caltrans. These highways include State Route 67, State Route 76, State Route 78, State Route 79 and State Route 94 and within the unincorporated area of the County most of these routes operate as two-lane highways. Caltrans has prepared a "Guide for the Preparation of Traffic Impact Studies" that should also be referenced when evaluating traffic impacts to the above Circulation Element Roads that are under the jurisdiction of Caltrans. Also, Caltrans District 11 local office should be consulted early to adequately scope the traffic study and ensure potential local district issues in the traffic impact study are addressed. While the "Guide for the Preparation of Traffic Impact Studies" provides guidance for scoping a traffic study to assess impacts on Caltrans facilities, it does not provide specific guidelines for determining when a significant traffic impact occurs; hence, the development of the following significance guidelines for two-lane highways.

In addition to the State Routes identified above, several County Circulation Element Roads, although designated as arterials, operate as two-lane highways. These include roadways that have passing opportunities for 40% or more along the length of the roadway and/or have few/limited access points and intersections along the length of the roadway. Examples would include sections of Old Highway 80, Old Highway 395 and Del Dios Highway. The Highway Capacity Manual (HCM) includes analysis criteria for assessment of LOS for two-lane highways. Section 2.2 of the County of San Diego's "Transportation and Traffic Report Format and Content Requirements" states that "The Director of Public Works may, based upon a review of the operational characteristics of the roadway, designate that a HCM analysis be used to determine the LOS for a two-lane County arterial in lieu of the LOS table provided in the County of San Diego Public Road Standards." Level of service tables for two-lane highways have also been established by the County of Riverside and the County of Sacramento.

4.3.1 Signalized Intersection Spacing Over One Mile

This section provides LOS impact significance levels for State highways and County arterials operating as two-lane highways with signalized intersection spacing over one mile. County arterials were addressed in section 4.1 and Table 1, however, those that operate as two-lane highways would have higher project contribution amounts and different LOS E and LOS F levels and are treated in this section.

Table 3
Measures of Significant Project Impacts to Congestion: Allowable Increases
on Two-lane Highways with Signalized Intersection Spacing Over One Mile

Level of Service	LOS Criteria	Impact Significance Level
LOS E	> 16,200 ADT	>325 ADT
LOS F	> 22,900 ADT	>225 ADT
Note: Where detailed data are available, the Director of Public Works may also accept a detailed level of service analysis based upon the two-lane highway analysis procedures provided in the Chapter 20 Highway Capacity Manual.		

Two-lane highways with intersection spacing over one mile have minimal side friction and conform to the HCM assumptions for two-lane highways. Level of service criteria for LOS E and LOS F are provided in Table 3 based upon criteria established with the Counties of Riverside and Sacramento and concurred upon by Caltrans-District 11. These criteria are appropriate for use for most projects with the potential to affect two-lane highways, as road conditions for two-lane highways in these Counties are similar to those in the County of San Diego. The ADT based guidelines should be the first applied method of analysis, however, County staff may allow the use of HCM Chapter 20 methodology (average travel speed and/or percent time spent following) to provide a more detailed evaluation and to determine the overall level of service in certain cases, with the approval of the Director of Public Works. Where impacts to State Highways are involved, consultation with Caltrans is recommended.

LOS E

Impact significance levels are provided in Table 3 for two-lane highways with signalized intersection spacing over one mile. The first impact significance level addresses impacts from new development (both direct and cumulative impacts) on an LOS E road. In this scenario a significant impact would be reached when the increase in average daily trips (ADT) on a two-lane road exceeds 325. For most discretionary projects, the 325 ADT level would generate less than 35 peak hour trips. On average, during peak hour conditions, this would be only one additional car every 1.7 minutes. The addition of 325 ADT would, in most cases, not be noticeable to the average driver on a two-lane highway which has higher speeds and reduced side friction compared to a typical arterial. The additional 325 ADT, therefore, would not constitute a significant impact on a two-lane highway operating at LOS E; however, the addition of more than 325 ADT would generally result in a significant impact.

LOS F

The second impact significance guideline concerns roadways presently operating at LOS F (for a 2-lane highway LOS F would not occur until ADT exceeds 22,900 trips per day. Under LOS F congested conditions, small changes and disruptions to the traffic flow on County Circulation Element Roads can have a greater affect on traffic operations when compared to other LOS conditions. In order to better account for potential effects of increased traffic on LOS F roads, a more stringent guideline was established when compared to that for LOS E. The guideline for determining significance from new development (both direct and cumulative impacts) on a LOS F road would be reached when the increase in average daily trips (ADT) on a two-lane road exceeds 225. For most discretionary projects, the 225 ADT level would generate less than 25 peak hour trips. On average, during peak hour conditions, this would be only one additional car every 2.4 minutes. The addition of 225 ADT would, in most cases, not be noticeable to the average driver on a two-lane highway which has higher speeds and reduced side friction compared to a typical arterial. The addition 225 ADT or less would therefore not constitute a significant impact on a two-lane highway operating at LOS F. However, the addition of more than 225 ADT would be considered a significant impact.

4.3.2 Signalized Intersection Spacing Under One Mile

This section provides level of service impact guidelines for State highway segments and County arterials operating as two-lane highways with signalized intersection spacing under one mile. Typical examples of this type of roadway are those segments of two lane highways that traverse town centers. Similar to the experience of drivers in urban areas with closely spaced intersections, the functionality of two-lane highway conditions with signalized intersections spacing under one mile becomes constrained not due to the segment capacity but the intersection operations. Therefore the assessment of operations of intersections on two-lane highways shall be guided by a Level of Service standard. Level of Service for purposes of this significance guideline is based upon the overall intersection operations – similar to Urban Street analysis in Chapter 15 Highway Capacity Manual. For determining impact significance at the signalized intersection, Table 4 “Measures of Significant Project Impacts to Congestion on Intersections Allowable Increases on Congested Intersections” may be used as summarized below:

Table 4
Measures of Significant Project Impacts to Congestion: Allowable Increases
on Two-lane Highways with Signalized Intersection Spacing Under One Mile

Level of Service	Signalized
LOS E	Delay of 2 seconds or less
LOS F	Delay of 1 second, or 5 peak hour trips or less on a critical movement
Notes: 1. A critical movement is an intersection movement (right turn, left turn, through-movement) that experiences excessive queues which typically operate at LOS F. 2. By adding proposed project trips to all other trips from a list of projects, these same tables are used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project is responsible for mitigating its share of the cumulative impact. 3. The County may also determine impacts have occurred on roads even when a project's traffic or cumulative impacts do not trigger an unacceptable level of service, when such traffic uses a significant amount of remaining road capacity.	

The second impact significance guideline (Table 4) concerns two-lane highways with signalized intersection spacing less than 1 mile. Two-lane highways with intersection spacing less than 1 mile operate similar to urban streets as identified in the HCM. Per the HCM, level Urban Streets have lower speeds with levels of service most characterized by the operation of the intersections along the highway/street. For two-lane highways with intersection spacing less than 1 mile, the level of service will be determined to be that of the intersections along the highway. Impacts to the highway will be determined by evaluating the intersection impact criteria identified in Table 4.

Impacts related to operational features on two-lane highways will be evaluated on a case-by-case basis based upon traffic flow patterns, geometrics, available sight distance, accident histories, and other factors. Coordination with County staff and Caltrans is recommended regarding any additional operational analysis that may be necessary.

4.4 Ramps

Additional or redistributed ADT generated by the proposed project may significantly increase congestion at a freeway ramp. Caltrans' "Guide for the Preparation of Traffic Impact Studies" states that an operational analysis based upon Caltrans' Highway Design Manual should be used in the evaluation of ramps and that Caltrans' Ramp Metering Guidelines should be used in the preparation of the operational analysis. However, specific criteria for the determination of an impact at a ramp are not provided in the above documents.

The CMP includes guidelines for the determination of traffic impacts at a ramp. These guidelines are summarized in Table 5. Table 5 may be used as a guide in determining significant increases in congestion on ramps and for identifying conflicts with the congestion management program. Other factors that may be considered include ramp metering, location (rural vs. urban), ramp design, and the proximity of adjacent intersections. Coordination with Caltrans and the local jurisdiction should be conducted to determine appropriate impact criteria for the specific ramps being assessed.

4.5 Congestion Management Program

Projects that generate over 2,400 ADT or 200 peak hour trips, must comply with the traffic study requirements of SANDAG's Congestion Management Program. Trip distributions for these projects must also use the current regional computer traffic model. Projects that must prepare a CMP analysis should also follow the CMP traffic impact analysis guidelines. These guidelines are summarized in Table 5.

Table 5
Measure of Significant Project Traffic Impacts for
Circulation Element Roads, Signalized Intersections, and Ramps

Level of Service With Project	Allowable Change Due to Project Impact						
	Freeways		Roadway Segments*		Intersections**	Ramps**	Ramps with >15 min. delay
	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec.)	Delay (min.)	Delay (min.)
E & F	0.01	1	0.02	1	2	-	2
<p>* For County arterials, which are not identified in SANDAG's Regional Transportation Plan and Congestion Management Program as regionally significant arterials, significance may be measured based upon an increase in average daily trips. The allowable change in ADT due to project impacts in this instance would be identified in Table 1.</p> <p>** Signalized Intersections</p> <p>*** See the Report Format and Content Requirements for guidance on ramp metering analysis.</p> <p>KEY</p> <p>V/C = Volume to Capacity ratio</p> <p>Speed = Speed measured in miles per hour</p> <p>Delay = Average stopped delay per vehicle measured in seconds, or minutes</p> <p>LOS = Level of Service</p> <p>ADT = Average Daily Trips</p>							

4.6 Hazards Due to an Existing Transportation Design Feature

Many roadways and intersections in the County were designed and constructed prior to the adoption of current road design standards. The design of the roadways and intersections that were able to handle lower traffic volumes, may pose an increased risk if traffic volumes substantially increase along the road segment or at the intersection as a result of the proposed project. Increased traffic generated or redistributed by a proposed project may cause a significant traffic operational impact to an existing transportation design feature. Therefore, it is necessary to evaluate potential hazards to an existing transportation design feature.

The determination of significant hazards to an existing transportation design feature shall be on a case-by-case basis, considering the following factors:

- Design features/physical configurations of access roads may adversely affect the safe movement of all users along the roadway.
- The percentage or magnitude of increased traffic on the road due to the proposed project may affect the safety of the roadway.
- The physical conditions of the project site and surrounding area, such as curves, slopes, walls, landscaping or other barriers, may result in conflicts with other users or stationary objects.
- Conformance of existing and proposed roads to the requirements of the private or public road standards, as applicable.

4.7 Hazards to Pedestrians or Bicyclists

Many roadways and intersections in the County do not currently have pedestrian or bicycle facilities. The roadways and intersections designed prior to adoption of current road standards may have conditions that may pose an increased risk if traffic volumes, pedestrian volumes, or bicycle volumes substantially increase along the road segment or at the intersection, as a result of the proposed project. Increased traffic generated or redistributed by a proposed project may cause a significant traffic operational impact to pedestrians or bicyclists. Therefore, it is necessary to evaluate potential hazards to pedestrians or bicyclists.

The determination of significant hazards to pedestrians or bicyclists shall be on a case-by-case basis, considering the following factors:

- Design features/physical configurations on a road segment or at an intersection that may adversely affect the visibility of pedestrians or bicyclists to drivers entering and exiting the site, and the visibility of cars to pedestrians and bicyclists.

- The amount of pedestrian activity at the project access points that may adversely affect pedestrian safety.
- The preclusion or substantial hindrance of the provision of a planned bike lane or pedestrian facility on a roadway adjacent to the project site.
- The percentage or magnitude of increased traffic on the road due to the proposed project that may adversely affect pedestrian and bicycle safety.
- The physical conditions of the project site and surrounding area, such as curves, slopes, walls, landscaping or other barriers that may result in vehicle/pedestrian, vehicle/bicycle conflicts.
- Conformance of existing and proposed roads to the requirements of the private or public road standards, as applicable.
- The potential for a substantial increase in pedestrian or bicycle activity without the presence of adequate facilities.

4.8 Alternative Transportation

Alternative transportation (cycling, walking, and transit use) is addressed in the County's General Plan Public Facilities Element (PFE). The County's stated objective for alternative transportation is addressed by the PFE, Objective 4. Objective 4 asks for a "Reduction in the demand on the road system through increased public use of alternate forms of transportation and other means." Pursuant to Objective 4, Policies 4.1 – 4.4 establish a means for the County to meet the objective. As such, if a proposed project is not in conformance with the applicable alternative transportation policies in the PFE, a significant conflict with the County's alternative transportation policies may occur.

5.0 STANDARD MITIGATION AND PROJECT DESIGN CONSIDERATIONS

If a proposed project's traffic results in a significant traffic impact (per the criteria specified above), mitigation for the traffic impact must be proposed. If mitigation is infeasible or impractical, the technical, economic, and physical reasons for the infeasibility must be detailed to support a statement of overriding considerations under CEQA. Potential mitigation measures can include traffic signal improvements, physical road improvements, street re-striping and parking prohibitions, fair share contributions toward identified, funded and scheduled projects, and transportation demand management programs.

A variety of possible generalized mitigation measures are provided below. It should be recognized that a variety of improvements may be required to mitigate direct impacts depending on the extent of the project's impact. For example, a project may identify a direct impact to a road segment; however the entire segment may not need to be improved. Depending on the situation, frontage improvements or turn pockets may adequately mitigate the impact. However, analysis must be provided to demonstrate that with implementation of the proposed mitigation measure, conditions would either not change or not become worse with the implementation of the project. For example, travel time or queue lengths may need to be quantified to justify the adequacy of a proposed mitigation measure as being proportional to the project's significant impact. It should be noted that fair share contributions are not adequate to fully mitigate a direct impact because the construction of actual improvements must be in place prior to the project impact occurring. Consult with County staff, as necessary, for further information. Conceptual striping plans to ensure feasibility of the proposed mitigation measures may be required.

5.1 Traffic Signal Improvements

- New Signal (provided that it meets traffic signal warrants)
- Signal modifications including timing, coordination, phasing improvements, etc.

5.2 Physical Road Improvements

- Turn Restrictions
- New Roadway
- Curve Realignment
- Roadway widening to add lanes or shoulders
- Provision of pathway or sidewalk
- Extension of truncated street
- Shoulder provisions for bicycle-lanes
- Redesign of freeway on- and off-ramps
- Median construction/modification to restrict access
- Flaring of intersections to add turn lanes
- Provision of passing lanes or turnouts
- Acceleration and deceleration lanes

- Removal of obstructions (vegetation, rock outcroppings, utilities, etc.)
- Roundabouts

5.3 Street Re-striping and Parking Restrictions

- Re-striping to add lanes with or without parking removal or restrictions
- Protected left-turn pockets, or free right turn lanes
- Parking restrictions, daily or during peak hours
- Bicycle lanes and or sharrows

5.4 Fair Share Contributions

- Payment of the County's Traffic Impact Fee for mitigation of cumulative impacts within the unincorporated County (Refer to Section 2.2 of these Guidelines for discussion of how the TIF mitigates cumulative impacts)
- Contribution of funds to approved projects identified in the County's Capital Improvement Program Plan
- Agreement between an applicant and a City or non-County agency to contribute a fair share payment towards the construction of a specific traffic improvement found adequate by the County for impacts outside of the jurisdiction of the unincorporated County (Refer to Section 5.0 of the Report Format and Content Requirements for additional discussion of impacts outside of the County's jurisdiction).

5.5 Transportation Demand Management*

- Flexible or staggered work hours
- Properly pricing parking
- Transit incentives and improvements including subsidized transit passes, bus turnouts, or bus shelters/benches
- Carpool, vanpool programs and participation in a computerized matching system
- Incentives to promote bicycle and walk trip modal split

* Implementation of these measures will require monitoring on an on-going basis.

5.6 Traffic Safety/Hazards to Pedestrians or Bicyclists

If traffic safety or pedestrian/bicycle safety impacts are present, then conditions are placed on a project prior to approval to address those concerns. Often, compliance with County of San Diego Public or Private Road Standards will provide sufficient mitigation for an identified impact. However, site specific mitigation measures, such as the improvement of sight distance along the frontage of a project, will be imposed as a condition of approval. Conceptual striping plans to ensure feasibility of the proposed mitigation measures may be required.

Projects that would generate a high demand for pedestrian traffic such as schools, shopping centers, and large office parks may be required to provide pedestrian and bicycle routes to the facilities to accommodate the pedestrian demand.

Bicycle lanes and routes designated on the County's General Plan/Circulation Element must be specified and existing facilities identified. Provisions to provide/accommodate the ultimate right-of-way needed to construct designated bike lanes must be incorporated into the proposed project. Construction of bicycle lanes may be based upon the demand and connections to existing facilities in the area.

5.7 Alternative Transportation

Alternative transportation is addressed in the County's General Plan Public Facilities Element (PFE), Policies 4.1 – 4.4. The PFE identifies several viable ways of promoting alternative transportation and to reduce demand on the road system. However, many of these solutions are programmatic in nature and cannot typically be implemented by an individual project. Program level solutions include establishing incentive programs for employers to encourage their employees to use alternative transportation and coordinating the planning and development of transit centers with other jurisdictions and public transportation agencies. Project level solutions include identifying the need for transit improvements for large scale projects and conditioning new development on the dedication and construction of bikeways as indicated in the Circulation Element's Bicycle Network.

5.8 Project Phasing

If a proposed project will be developed in phases and the county agrees that phased implementation of mitigation measures is a feasible option, the traffic analysis will need to identify impacts and associated mitigation according to each phase of development. The implementation of mitigation measures would be timed with each project phase to address the impacts that each phase of development would create. The traffic analysis will need to evaluate each phase separately in order to justify the mitigation that will be implemented at each phase. For example, if a project proposes to construct in phases (stages) or with interim uses before full build out, then the traffic study shall detail the projects traffic impacts and needed mitigation for each phase (stage) as it comes online and identify appropriate mitigation at each stage. This level of analysis will allow County staff to draft road and frontage improvement conditions in conjunction with actual project improvements via phasing or stages.

APPENDIX B

- Board Resolution, GPS 2-CE1, June 12, 2002
- Board Resolution, SPA 00-005, June 12, 2002
- Board Resolution, GPA 06-013, August 1, 2007
- Board Resolution, SPA 06-003, August 1, 2007
- Excerpts from 5-year Capital Improvement Program (CIP) 2008/09 – 2012/13
 - Caltrans' Fact Sheet for SR-905 & SR-11
- Correspondence with Caltrans Re: Airway Road between SR-905 and Sanyo Avenue *dated: April 23, 2009*
 - SR-905 1B Funding Correspondence
 - ERA Market Forecast
- SANDAG Series 11 Model for Otay Mesa 2020

Board Resolution, GPS 2-CE1, June 12, 2002

June 12, 2002

A RESOLUTION OF THE SAN DIEGO COUNTY)
BOARD OF SUPERVISORS ADOPTING)
GENERAL PLAN AMENDMENT (GPA) 02-CE1)

WHEREAS, pursuant to Government Code Sections 65350 et seq. and Board of Supervisors Policy I-63 "General Plan Amendment and Zoning Implementation Guidelines", General Plan Amendment 02-CE1 has been prepared, being the first amendment to the Circulation Element in the calendar year 2002; and

WHEREAS, General Plan Amendment 02-CE1 consists of an amendment to sheet 6 of the County of San Diego General Plan, Circulation Element which includes the following:

1. Deletion of Alta Road (SA 1112) from Lonestar Road (SC 2340) to the Chula Vista City limits.
2. Deletion of Harvest Road (SA 1104) from Otay Mesa Road (SA 1120) to Lonestar Road (SC 2340).
3. Deletion of Alta Road (SA 1112) from Siempre Viva Road (SC 2360) to Via de la Amistad (a non-Circulation Element Road).
4. Reclassification of Otay Mesa Road (SA 1120) from Enrico Fermi Drive (SC 1105) to Alta Road (SA 1112) from a Prime Arterial with bike lanes to a Major Road with bike lanes.
5. Reclassification of Lonestar Road (SA 2340) from Ellis Road to Alta Road (SA 1112) from a Prime Arterial with bike lanes to a Major Road with bike lanes.
6. Reclassification of Alta Road (SA 1112) from Lonestar Road (SC 2340) to Otay Mesa Road (SA 1120) from a Major Road without bike lanes to a Major Road with bike lanes.

WHEREAS, the Department of Planning and Land Use, in the Planning Report to the Planning Commission under the cover letter dated May 3, 2002 has made its detailed recommendations concerning the above item; and

WHEREAS, the Department of Planning and Land Use recommends that a finding that the proposed project including GPA 02-CE1 and the alternatives was adequately reviewed in the previous Environmental Impact Report (EIR) for the East Otay Mesa Specific Plan dated May 11, 1994 and the Addendum No. 6 dated March 28, 2002; and

WHEREAS, on May 3, 2002, the Planning Commission, pursuant to Government Code Section 65361 and 65353, held duly advertised public hearings on the proposed project including GPA 02-CE1; and

WHEREAS, the Planning Commission has reviewed and considered the information contained in the appropriate reports prior to making its recommendations;

WHEREAS, the Planning Commission concurs with the Department of Planning and Land Use environmental recommendations as shown in the Resolution dated May 3, 2002, and has made its recommendation to the Board of Supervisors in the aforementioned Resolution;

BE IT THEREFORE RESOLVED that the Board of Supervisors finds that the Addendum to the previous Environmental Impact Report (EIR) for the East Otay Mesa Specific Plan dated May 11, 1994 and the Addendum dated March 28, 2002 as prepared by the County of San Diego was completed in compliance with CEQA and State CEQA Guidelines, that the Board of Supervisors has reviewed and considered the information contained therein prior to approving the project, that approval of the Addendum reflects the independent judgment of the Board of Supervisors, consider and approve the Addendum and make the findings stated in the Final EIR certification letter dated July 27, 1994.

BE IT FURTHER RESOLVED that the Board of Supervisors, pursuant to Government Code Section 65356, adopts the GPA 02-CE1 for the deletion and reclassification of portions of Circulation Element roads on Sheet 6 of the County of San Diego's Circulation Element as follows:

1. Deletion of Alta Road (SA 1112) from Lonestar Road (SC2340) to the Chula Vista City limits.
2. Deletion of Harvest Road (SA 1104) from Otay Mesa Road (SA 1120) to Lonestar Road (SC2340).
3. Deletion of Alta Road (SA 1112) from Siempre Viva Road (SC 2360) to Via de la Amistad (a non-Circulation Element Road).
4. Reclassification of Otay Mesa Road (SA 1120) from Enrico Fermi Drive (SC 1105) to Alta Road (SA 1112) from a Prime Arterial with bike lanes to a Major Road with bike lanes.
5. Reclassification of Lonestar Road (SA 2340) from Ellis Road to Alta Road (SA 1112) from a Prime Arterial with bike lanes to a Major Road with bike lanes.

6. Reclassification of Alta Road (SA 1112) from Lonestar Road (SC 2340) to Otay Mesa Road (SA 1120) from a Major Road without bike lanes to a Major Road with bike lanes.

BE IT FURTHER RESOLVED that the adoption of GPA 02-CE1 is consistent with the goals and policies of San Diego County as expressed in the General Plan and other adopted documents.

BE IT FURTHER RESOLVED that if any section, subsection, sentence, clause or phrase of this Resolution is for any reason held to be invalid or unconstitutional, such invalidity or constitutionality of the remaining portions of the Resolution, it being hereby expressly declared that this Resolution and each section, subsection, sentence, clause or phrase hereof would have been prepared, proposed, adopted, approved and ratified irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases be declared invalid or unconstitutional.

BE IT FURTHER RESOLVED that the amended documents shall be endorsed in the manner provided by the Board of Supervisors.

IT IS FURTHER ORDERED that the Clerk of the Board make available to the general public for inspection, within one working day, copies of the documents amending the General Plan, including diagrams and text, and copies thereof provided upon request and payment of a reasonable cost for copying within two working days after receipt of the request.

BE IT FURTHER RESOLVED that this Resolution and all plan amendments and other actions effective hereby shall take effect on June 12, 2002

BOARD02\06-12\EOMGPA02CE1-RES;jcr

Board Resolution, SPA 00-005, June 12, 2002

June 12, 2002

A RESOLUTION OF THE SAN DIEGO COUNTY)
BOARD OF SUPERVISORS)
ADOPTING AMENDMENT OF THE EAST OTAY)
MESA SPECIFIC PLAN (SPA 00-005))

WHEREAS, on July 14, 1994, the Board of Supervisors adopted the "East Otay Mesa Specific Plan" for the East Otay Mesa area; and

WHEREAS, the Board of Supervisors has recommended that said Specific Plan be amended to:

- Facilitate development of East Otay Mesa as a major employment area for southern San Diego County;
- Encourage and protect an area of critical size for regional technology manufacturing uses in a campus-like setting;
- Provide adequate land use area for warehousing and other light industrial uses;
- Provide an area for heavy industrial uses such as auto salvage and recycling that will not interfere with development and operation of more sensitive industrial park developments;
- Provide commercial uses in the Specific Plan to serve employees and visitors;
- Identify and address environmental resources; and
- Plan for public facilities concurrent with need.

WHEREAS, on May 3, 2002, the Planning Commission of the County of San Diego, pursuant to Government Code Sections 65453 and 65353, held a duly advertised public hearing; and

WHEREAS, the Planning Commission recommends that the Board of Supervisors amend the East Otay Mesa Specific Plan as shown in Attachment E incorporating the changes shown on the Errata Sheets in Attachment L; and

WHEREAS, the Board of Supervisors on June 12, 2002, conducted a duly advertised public hearing on the proposed East Otay Mesa Specific Plan amendment (SPA 00-005) and considered the recommendations of the Planning Commission with respect thereto.

NOW THEREFORE, BE IT RESOLVED AND FOUND in accordance with the California Environmental Quality Act (CEQA) Guidelines, as follows:

Find that the Board of Supervisors has reviewed and considered the information contained in the Environmental Impact Report (EIR) dated July 27, 1994 on file with the Department of Planning and Land Use as Environmental Review Number 93-19-6 and Addendum thereto dated

March 28, 2002 on file with the Department of Planning and Land Use as Environmental Review Number 93-19-06A prior to making a decision on the project;

The "California Environmental Quality Act Guidelines Section 15162, 15163, and 15164 Findings for Determining the Appropriate Environmental Documentation for Use on a Subsequent Project with a Previously Adopted EIR" dated March 28, 2002 on file with the Department of Planning and Land Use as Environmental Review Number 93-19-06A; is hereby adopted.

The "California Environmental Quality Act Guidelines Section 15091 Findings Regarding Significant Effects of the Project" dated July 27, 1994 on file with the Department of Planning and Land Use as Environmental Review Number 93-19-6; is hereby adopted.

BE IT FURTHER RESOLVED that the Board of Supervisors finds that the East Otay Mesa Specific Plan Amendment (SPA 00-005), is consistent with the San Diego County General Plan and the Otay Subregional Plan in that the goals, objectives, and policies of all the elements of the plans have been or will be met.

BE IT FURTHER RESOLVED that the Board of Supervisors hereby adopts the Specific Plan Amendment (SPA 00-005), consisting of this Resolution, the text and map entitled East Otay Mesa Specific Plan Amendment SubArea 1, as shown in Attachment E incorporating the changes shown on the Errata Sheets in Attachment L.

BE IT FURTHER RESOLVED that the following evidence is incorporated herein by this reference and serves as further evidence to support the findings, requirements, and conclusions included herein: The maps, exhibits, written documents, and material contained in the files regarding SPA 00-005 on record at the County of San Diego and the written documents referred to and the oral presentation(s) made at public hearings.

BE IT FURTHER RESOLVED that if any section, subsection, sentence, clause or phrase of this Resolution is for any reason held to be invalid or unconstitutional, such invalidity or constitutionality of the remaining portions of the Resolution, it being hereby expressly declared that this Resolution and each section, subsection, sentence, clause or phrase hereof would have been prepared, proposed, adopted, approved and ratified irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases be declared invalid or unconstitutional.

BE IT FURTHER RESOLVED that the amended document shall be endorsed in the manner provided by the Board of Supervisors.

IT IS FURTHER ORDERED that the Clerk of the Board make available to the general public for inspection, within one working day, copies of the documents

amending the Specific Plan, including diagrams and text, and copies thereof provided upon request and payment of a reasonable cost for copying within two working days after receipt of the request.

BE IT FURTHER RESOLVED that this Resolution and all plan amendments and other actions effective hereby shall take effect on June 12, 2002.

BOARD02\06-12\EOMSPA00005-RES;jcr

Board Resolution, GPA 06-013, August 1, 2007

Hearing Date: August 1, 2007

A RESOLUTION OF THE SAN DIEGO COUNTY)
BOARD OF SUPERVISORS ADOPTING)
GENERAL PLAN AMENDMENT (GPA) 06-013)

WHEREAS, pursuant to Government Code Sections 65350 et seq., and Board of Supervisors' Policy I-63, General Plan Amendment and Zoning Implementation Guidelines, GPA 06-013 has been prepared, being the third amendment to the Circulation Element, in the Calendar Year 2007; and

WHEREAS, GPA 06-013 has been initiated by the County of San Diego consisting of an amendment to the Circulation Element; and

WHEREAS, pursuant to Government Code Sections 65860 et seq., associated Specific Plan Amendments have been prepared together with GPA 06-013; and

WHEREAS, the Planning Commission has made its detailed recommendations concerning the above item; and

WHEREAS, the Planning Commission recommends that the Board of Supervisors review and consider the information contained in the "Environmental Review Update Checklist Form for Projects with a Previously Approved Environmental Document" and in the Addendum to the previously certified Environmental Impact Report (EIR) dated June 15, 2007, on file with the Department of Planning and Land Use (DPLU) as Environmental Review Number 93-19-006Y prior to making its decision on the project; and

WHEREAS, the Planning Commission recommends that the proposed project, GPA 06-013, will have no new significant impact on the environment; and

WHEREAS, on July 13, 2007, the Planning Commission, pursuant to Government Code Sections 65351 and 65353 held a duly advertised public hearing on GPA 06-013; and

WHEREAS, the Planning Commission has reviewed and considered the information contained in the "Environmental Review Update Checklist Form for Projects with a Previously Approved Environmental Document" and in the Addendum to the previously certified EIR dated June 15, 2007, on file with DPLU as Environmental Review Number 93-19-006Y prior to making its recommendation on the project; and

WHEREAS, on August 1, 2007, the Board of Supervisors, pursuant to Government Code Section 65355 held a duly advertised public hearing on GPA 06-013; and

NOW THEREFORE BE IT RESOLVED that the Board of Supervisors takes the following actions:

1. Find that the Board of Supervisors has reviewed and considered the information contained in the Final EIR dated February 17, 1994 on file with DPLU as Environmental Review Number 93-19-006 and Addenda thereto dated January 13, 1999; July 1, 1999; June 21, 2000; March 12, 2001; February 23, 2001; March 28, 2002; March 4, 2003, May 20, 2005, January 31, 2006, March 27, 2006, August 7, 2006, and November 17, 2006 on file with DPLU as Environmental Review Number 93-19-016; 93-19-006; 93-19-006A; 98-19-013; 98-19-013A; 93-19-006C; 93-19-006P; 93-19-006A; 93-19-006S; and 93-19-006T prior to making its decision on the project;
2. The "Environmental Review Update Checklist Form for Projects with a Previously Approved Environmental Document" and the EIR Addendum dated June 15, 2007 on file with DPLU as Environmental Review Number 93-19-006Y including California Environmental Quality Act Guidelines Sections 15162, 15163, and 15164 Findings for Determining the Appropriate Environmental Documentation to be completed when there is a previously certified EIR; is hereby adopted.
3. The Board reaffirms the findings made relative to said EIR in accordance with Public Resources Code 21081.
4. Approve GPA 06-013, which consists of an amendment to the Circulation Element Portion Sheet 6 as shown on Exhibit #B-1, B-2 and B-3.

BE IT FURTHER RESOLVED that the amended documents shall be endorsed in the manner provided by the Board of Supervisors.

BE IT FURTHER RESOLVED that this Resolution shall take effect and be in force from and after 30 days after its adoption.

BOARD07\08-01\GPA06013-RES;jcr

Board Resolution, SPA 06-003, August 1, 2007

Hearing Date: August 1, 2007

RESOLUTION OF THE SAN DIEGO COUNTY)
BOARD OF SUPERVISORS)
APPROVING SPECIFIC PLAN AMENDMENT)
SPA 06-003, EAST OTAY MESA)

ON MOTION of Supervisor _____, seconded by Supervisor _____
_____, the following Resolution is adopted:

WHEREAS, a Specific Plan known as the East Otay Mesa Specific Plan (SP 93-004), having been prepared by the San Diego County Department of Planning and Land Use for an area comprising 3,300 acres (Subareas 1 and 2), generally located south of the Otay River Valley, north of the international border with Mexico, west of the San Ysidro Mountains and east of the City of San Diego and State Route 905 in the community of Otay Mesa, was adopted by Resolution of this Board on July 27, 1994; and

WHEREAS, the County of San Diego initiated an amendment to the East Otay Mesa Specific Plan (SPA 06-003) for an area comprising a total of 3,300 acres; and

WHEREAS, the County of San Diego has stated the intent of said Amendment to change the East Otay Mesa Specific Plan as follows:

1. East Otay Mesa Specific Plan Subarea 1 to update the circulation element, bicycle network, sidewalk design standards, fencing requirements, and other minor items;
2. East Otay Mesa Specific Plan Subarea 2 to update the circulation element, bicycle network, sidewalk design standards, and revise the noise standards to conform to the standards currently in place for Subarea 1 and other minor items; and

WHEREAS, pursuant to Section 65450 et seq. of the Government Code, the Planning Commission on July 13, 2007 conducted a duly advertised public hearing and recommended that the Board of Supervisors approve the East Otay Mesa Specific Plan Amendment (SPA 06-003) because it is consistent with the General Plan and the Otay Subregional Plan; and

WHEREAS, the Board of Supervisors on August 1, 2007, conducted a duly advertised public hearing on the proposed East Otay Mesa Specific Plan Amendment (SPA 06-003) and considered the recommendations of the Planning Commission with respect thereto, and determined that the requirements hereinafter enumerated are necessary to ensure that the Specific Plan Amendment, and the implementation thereof, will conform to all ordinances, policies, rules, standards, and improvement and design requirements of the County of San Diego.

NOW THEREFORE, BE IT RESOLVED AND FOUND in accordance with the California Environmental Quality Act (CEQA) Guidelines, as follows:

1. It is hereby found that the Board of Supervisors has reviewed and considered the information contained in the Final EIR dated February 17, 1994 on file with DPLU as Environmental Review Number 93-19-006 and Addenda thereto dated January 13, 1999; July 1, 1999; June 21, 2000; March 12, 2001; February 23, 2001; March 28, 2002; March 4, 2003, May 20, 2005, January 31, 2006, March 27, 2006, August 7, 2006, and November 17, 2006 on file with DPLU as Environmental Review Number 93-19-016; 93-19-006; 93-19-006A; 98-19-013; 98-19-013A; 93-19-006C; 93-19-006P; 93-19-006A; 93-19-006S; and 93-19-006T prior to making its decision on the project;
2. The "Environmental Review Update Checklist Form for Projects with a Previously Approved Environmental Document" and the EIR Addendum dated June 15, 2007 on file with the Department of Planning and Land Use as Environmental Review Number 93-19-006Y including California Environmental Quality Act Guidelines Sections 15162, 15163, and 15164 Findings for Determining the Appropriate Environmental Documentation to be completed when there is a previously certified Environmental Impact Report (EIR); is hereby adopted.
3. The Board reaffirms the findings made relative to said EIR in accordance with Public Resources Code 21081.

BE IT FURTHER Resolved that the Board of Supervisors finds that the East Otay Mesa Specific Plan Amendment (SPA 06-003) is consistent with the San Diego County General Plan and the Otay Subregional Plan in that the goals, objectives, and policies of all the elements of the plans have been or will be met.

BE IT FURTHER RESOLVED that the Board of Supervisors hereby adopts the East Otay Mesa Specific Plan Amendment (SPA 06-003), consisting of this Resolution and the text entitled East Otay Mesa Business Park Subarea 1 and Subarea 2 as shown on Exhibits #C-1 and C-2.

BE IT FURTHER RESOLVED that the following conditions and requirements are imposed upon the Specific Plan Amendment (SPA 06-003) and all development applications filed in order to implement said Specific Plan Amendment:

1. Unless specifically waived, the requirements of the San Diego County Subdivision Ordinance, the Zoning Ordinance, and the San Diego County road standards shall apply irrespective of what is stated in the Specific Plan Amendment text and none of the requirements included within this Resolution shall be deemed as exempting any permit filed pursuant to this Specific Plan

Amendment from that review process and those conditions and requirements normally applied to such permit applications.

BE IT FURTHER RESOLVED that this Specific Plan Amendment (SPA 06-003) shall be of no force and effect on August 1, 2014 unless use and reliance has been established.

BE IT FURTHER RESOLVED that all references within this Resolution to "applicant", "developer" or "subdivider" shall be equally applicable to the current property owner and to any successors-in-interest or assigns, whether such successors or assigns own, control, or otherwise have development authority for all, a portion, or portions of that property included within the Specific Plan.

BE IT FURTHER RESOLVED, that the following evidence is incorporated herein by this reference and serves as further evidence to support the findings, requirements, and conclusions included herein: The maps, exhibits, written documents, and material contained in the files regarding SPA 06-003 on record at the County of San Diego and the written documents referred to and the oral presentation(s) made at public hearings.

NOTICE - The subject property is known to contain Coastal sage scrub plant community. Such plant community is habitat for the coastal California gnatcatcher. The Federal government recently listed the gnatcatcher as a threatened species under the Federal Endangered Species Act of 1973 (16 U.S.C. Section 1531 et seq.). THE LISTING MAY RESULT IN AN APPLICANT'S INABILITY TO PROCEED WITH HIS/HER PROJECT WITHOUT A PERMIT FROM THE FEDERAL GOVERNMENT IF THE SPECIES OR ITS HABITAT ARE PRESENT ON THE PROJECT SITE. It is advisable to contact the United States Fish and Wildlife Service to determine the applicability of the prohibitions under the Act to each applicant's property.

THE ISSUANCE OF THIS PERMIT BY THE COUNTY OF SAN DIEGO DOES NOT AUTHORIZE THE APPLICANT FOR SAID PERMIT TO VIOLATE ANY FEDERAL, STATE, OR COUNTY LAWS, ORDINANCES, REGULATIONS, OR POLICIES INCLUDING, BUT NOT LIMITED TO, THE FEDERAL ENDANGERED SPECIES ACT AND ANY AMENDMENTS THERETO.

NOTICE: Fish and Game Fees have been paid in the amount of \$875 for the review of the EIR, Receipt number 88522, date paid June 2, 2000.

PC07\07-13\SPA06003-RES;jcr

Excerpts from 5-year Capital Improvement Program (CIP) 2008/09 – 2012/13



County of San Diego
Department of Public Works

Five Year Capital Improvement Plan



FY 2008-09 thru FY 2012-13





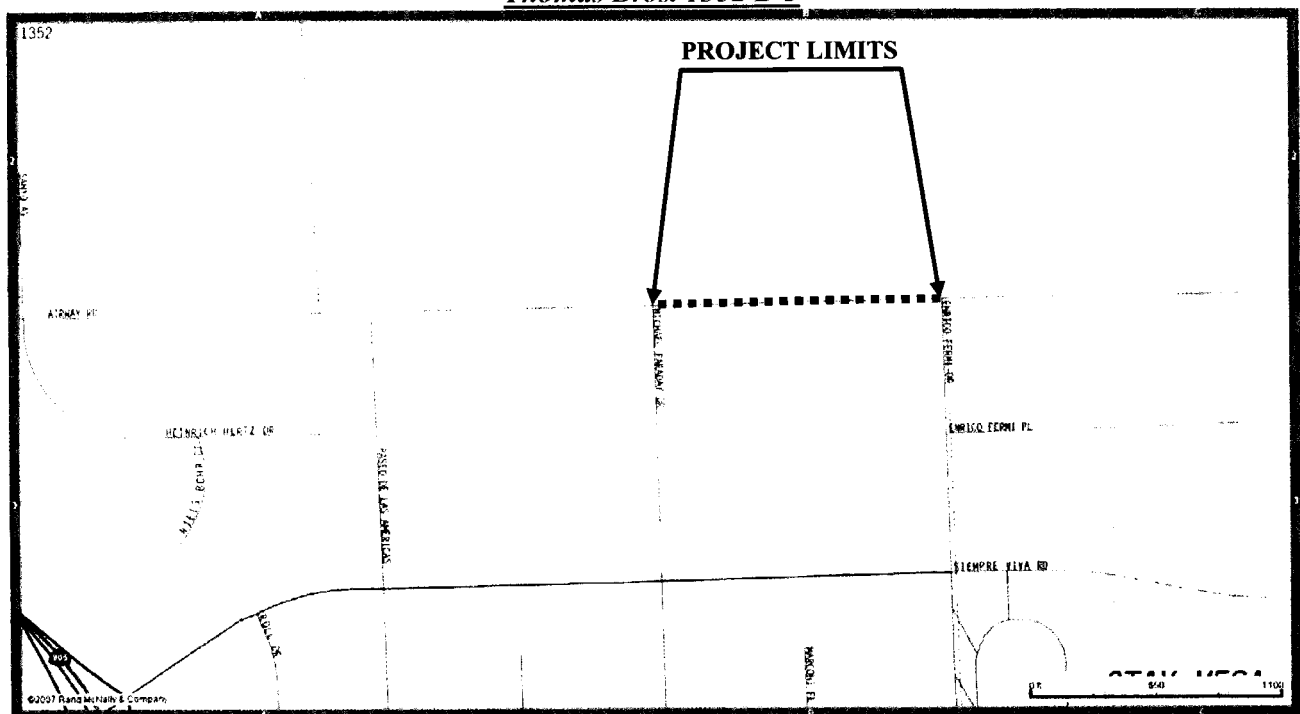
AIRWAY ROAD – OTAY

This project involves the construction of additional lanes on Airway Road between Michael Faraday Drive and Enrico Fermi Drive.

Total Length	1400 feet
Estimated Completion	TBD
Planning Group	None
Project Manager	Michael Long
District	1
Estimated Project Cost	TBD
Funding	Transportation Impact fees/TBD

	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13
Preliminary Engineering	\$0	\$50,000	\$0	\$0	\$0
Project Development	\$0	\$0	TBD	\$0	\$0
Right-of-Way	\$0	\$0	\$0	TBD	\$0
Construction	\$0	\$0	\$0	TBD	TBD
Totals	\$0	\$50,000	TBD	TBD	TBD

Thomas Bros. 1352 B-3





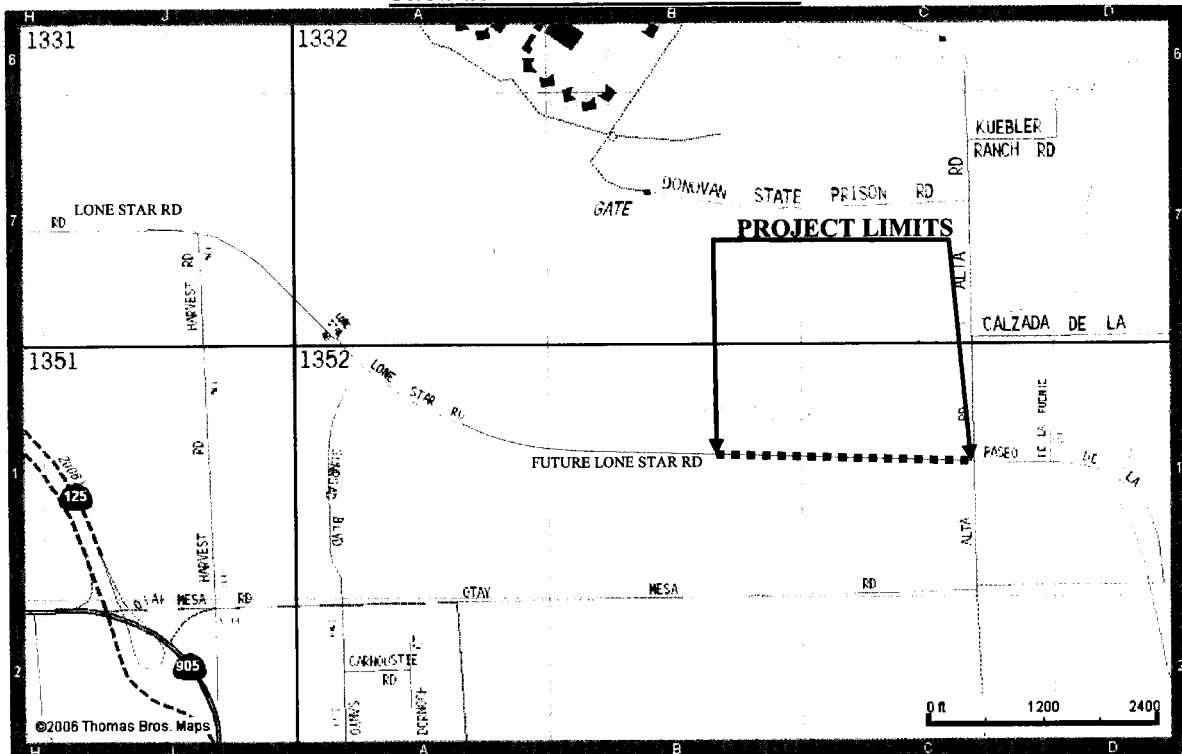
LONE STAR ROAD – OTAY

This project involves the construction of a new road, Lone Star Road, from Alta Road to the west for 0.5 mile.

Total Length	0.5 mile
Estimated Completion	Spring 2014
Planning Group	None
Project Manager	Steve Ron
District	1
Estimated Project Cost	\$6,500,000
Funding	Federal - TBD

	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13
Project Development	\$82,000	\$100,000	\$50,000	\$0	\$0
Right-of-Way	\$0	\$0	\$1,000,000	\$10,000	\$10,000
Construction	\$0	\$0	\$1,400,000	\$3,000,000	\$0
Totals	\$82,000	\$100,000	\$2,450,000	\$3,010,000	\$10,000

Thomas Bros. 1352 B-1 thru C-1





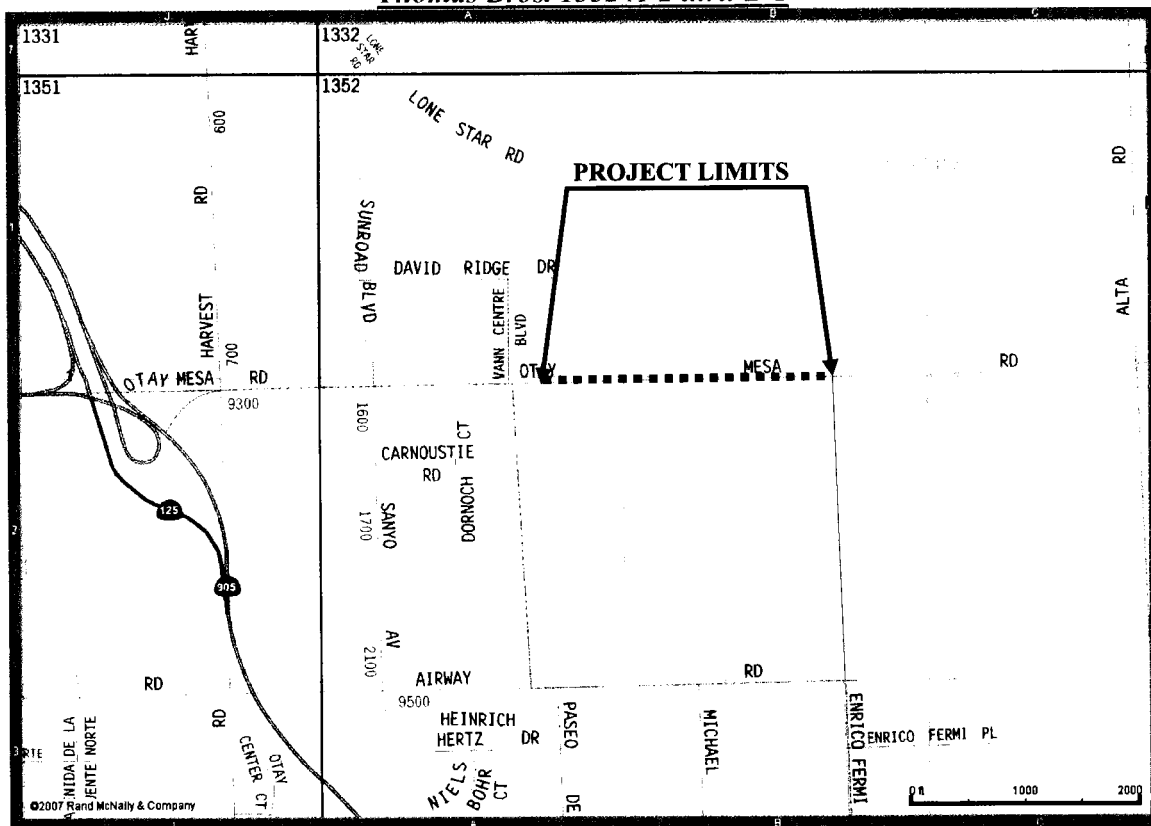
OTAY MESA ROAD WIDENING – OTAY

This project involves the widening of Otay Mesa Road from vicinity of Vann Center Blvd. to Enrico Fermi Drive.

Total Length	2300 feet
Estimated Completion	Spring 2014
Planning Group	None
Project Manager	Steve Ron
District	1
Estimated Project Cost	\$14,566,000
Funding	TBD

	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13
Preliminary Engineering	\$50,000	\$0	\$0	\$0	\$0
Project Development	\$0	\$500,000	\$0	\$0	\$0
Right-of-Way	\$5,000	\$11,000	\$1,000,000	\$0	\$0
Construction	\$0	\$0	\$0	\$6,500,000	\$6,500,000
Totals	\$55,000	\$511,000	\$1,000,000	\$6,500,000	\$6,500,000

Thomas Bros. 1352 A-2 thru B-1



Caltrans' Fact Sheet for SR-905 & SR-11



American Recovery and Reinvestment Act



State Route 905

CALIFORNIA DEPARTMENT OF TRANSPORTATION

STATE ROUTE 905 PROJECT – PHASE 1B, SIX-LANE FREEWAY FACT SHEET – FEBRUARY 2010

The Project

Work began in July 2009 to construct three miles of six-lane freeway from Britannia Boulevard to east of Interstate 805 in San Diego as the next phase of the State Route 905 Project. This phase – referred to as Phase 1B – is among the first transportation projects in the state to make use of funds from the American Recovery and Reinvestment Act (Recovery Act). This project's Phase 1A is also under construction from Siembra Viva Road to Britannia Boulevard. The SR-905 Project as a whole runs from the Otay Mesa Port of Entry to I-805.

The Need

The project is critical to the flow of goods and services between California and Baja California, Mexico. Total imports and exports between these two trade partners was \$15 billion in 1995, and today it totals more than \$36 billion. Ninety-eight percent of this trade is transported by truck. The California/Baja California Ports of Entry processed more than two million trucks in 2005, and this figure is projected to double by 2020.

Jobs

Construction of SR-905 Phase 1B will generate jobs for the San Diego Region and California. It will also accommodate the anticipated increase in traffic congestion and help keep California competitive in the world market.

Partnership

SR-905 Phase 1B was developed through a partnership between the California Department of Transportation (Caltrans), the Federal Highway Administration (FHWA) and the San Diego Association of Governments (SANDAG).

Project Status

Phase 1B began construction in July 2009 with completion expected in summer 2012. Phase 1A started construction in April 2008 and is expected to be completed by the end of 2010. The remaining three phases of the project are interchanges and not yet funded or programmed.

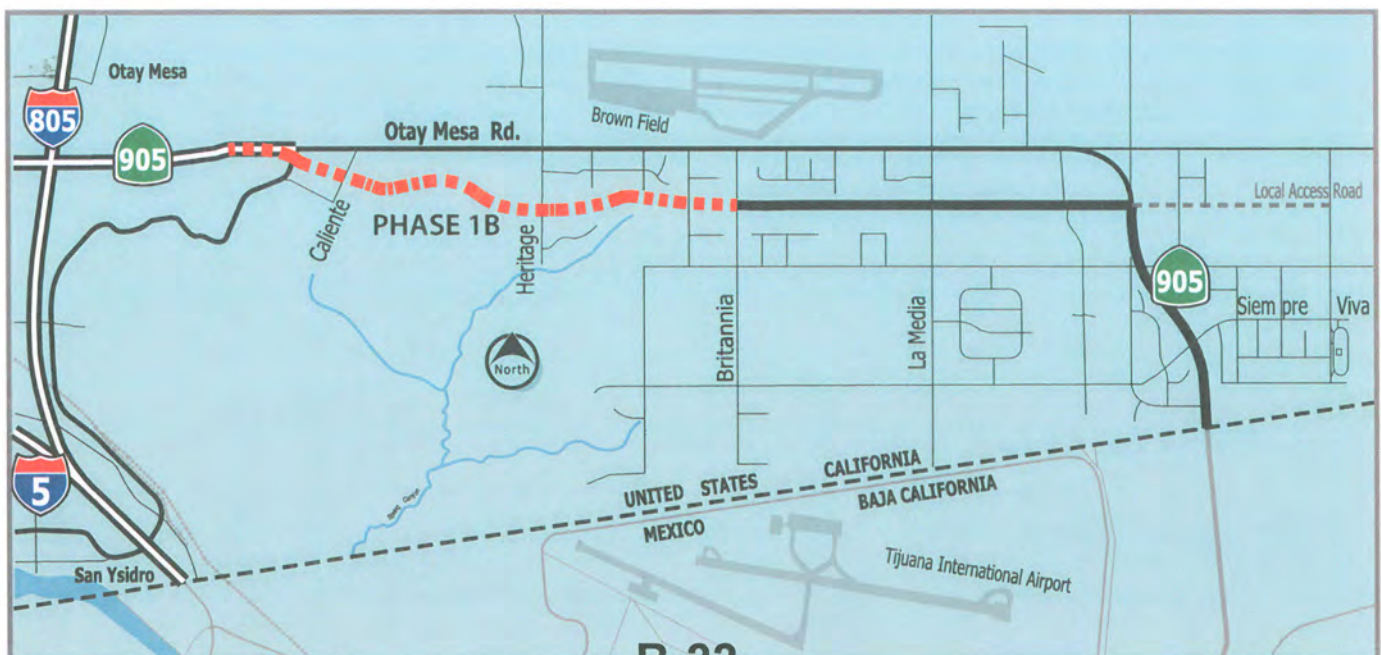
Project Costs

SR-905 Phase 1B has a price tag of \$77 million, including \$74 million from the Recovery Act, \$2.1 million from Federal Demonstration, and \$900,000 from the SANDAG's TransNet half-cent sales tax. The estimated cost for all phases of the SR-905 project is \$610.5 million.

Project Schedule

Start Construction (Phase 1B): July 2009

Project Completion (Phase 1B): Summer 2012





February 2010

State Route 11/Otay Mesa East Port of Entry Project

FACT SHEET

GOALS

It's been 23 years since the last border crossing opened between California and Baja California, Mexico, and during that time both trade partners benefited from strong economic growth.

The new border crossing and connecting freeway will do even more to promote the transportation of vital goods and services across the border, and help the two nations remain competitive in the world market.

CONTACT

Project Manager
Mark Baza at
(619) 688-2545
or by e-mail at
Mark.Baza@dot.ca.gov

Department of Transportation
4050 Taylor Street
San Diego, CA 92110
Ph: (619) 688-6670
Fax: (619) 688-3695
www.dot.ca.gov/dist11



THE PROJECT

Details include the proposed construction of State Route 11 (a four-lane freeway) and a new U.S. Customs and Border Protection Port of Entry in the community of East Otay Mesa, San Diego. SR-11 will extend about two miles from SR-905 south to the new Otay Mesa East Port. The new freeway and port will curb traffic congestion and reduce frequent border wait times of more than six hours for commercial trucks at the nearby Otay Mesa Port and up to three hours for cars at Otay Mesa and San Ysidro ports. It will provide a seamless connection south of the border to the Tijuana-Rosarito Corridor, with links to the Tijuana-Tecate and the Tijuana-Ensenada toll roads in Baja California, Mexico.

The passage of Senate Bill 1486 and the subsequent issuing of a federal Presidential Permit in 2008 opened the door for the San Diego Association of Governments (SANDAG) to seek private investment dollars to cover the shortfall in construction dollars and provide a premium crossing option for a fee. This premium option may reduce wait times from three hours down to less than a half hour. The Permit is a component of the state's intent to finance the project through tolls or user fees and is required by the financial investment industry for moving forward with public toll financing.

TRAFFIC

The project will reduce traffic congestion at the other three land ports in San Diego County (San Ysidro, Otay Mesa and Tecate). The biggest impact will be felt at the Otay Mesa Port, which serves more than 90 percent of commercial truck traffic entering the county. More than 1.4 million trucks carrying an estimated \$28.6 billion in goods crossed at the Otay Mesa Port in 2006. The number of trucks is expected to double by 2025.

CONSTRUCTION COSTS

SR-11 ranges from \$300 million-\$360 million, while the new Otay Mesa East Port has a price tag of between \$300 million-\$350 million. The Proposition 1B Trade Corridor Improvement Fund is contributing \$75 million for the project. The State Transportation Improvement Program has contributed \$13 million and \$800,000 has come from the federal government.

Construction would create approximately 8,134 new jobs, generating an estimated \$463,850 for the local economy. Operation of the facility, combined with the extension of SR-905, would create an additional 33,900 jobs and generate about \$1.2 million.

STATUS

An environmental study for the program has been completed and a second study for the project itself is underway, with completion expected in 2010. The schedule calls for the project breaking ground in 2012 and opening in 2014, contingent on full funding.



Correspondence with Caltrans Re: Airway Rd btwn. SR-905 and Sanyo
Av dated: April 23, 2009

Jessica Bavos

From: Ted Olson [ted_olson@dot.ca.gov]
Sent: Thursday, April 23, 2009 5:17 PM
To: Jessica Bavos
Cc: Mary Beth Hayes; abdul_malikyar@dot.ca.gov
Subject: Re: Airway Road btwn. SR-905 & Sanyo Av (D&A 040501)
Attachments: Page 13 from Phase_3_Plans.pdf; Pages 35 & 36 from Phase_3_Plans-2.pdf; Title Page from 905, Phase 2 Plans.pdf

Jessica,

- 1) The current CPM schedule shows Airway Road, between Harvest Road and Sanyo Avenue, open to traffic on January 5, 2011.
- 2) Attached are the project Title sheet and three delineation plan sheets showing the planned striping in this same area. The westerly and easterly tie-in striping may need to be revised to conform with the existing conditions.

(See attached file: Page 13 from Phase_3_Plans.pdf)(See attached file: Pages 35 & 36 from Phase_3_Plans-2.pdf)(See attached file: Title Page from 905, Phase 2 Plans.pdf)

Ted
(858) 688-1594 (cell)
(619) 661-1960 (fax)

"Jessica Bavos"
<jbavos@darnell-associates.com>

04/22/2009 03:56 PM

<ted_olson@dot.ca.gov>,
<Ismael.Salazar@dot.ca.gov>

To

cc

<jbragg@kearny.com>,
<tatiana@thejuddco.com>, "'Bill Darnell'"
<BDarnell@darnell-associates.com>,
<vhaskell@darnell-associates.com>

Subject

Airway Road btwn. SR-905 & Sanyo Av
(D&A 040501)

Mr. Olson,

I am currently working on the Otay Crossings traffic study and I was wondering if there was any way to get information/stripping plans on the roadway segment of Airway Road between SR-

905 and Sanyo Avenue upon completion of the overhead pass for the SR-905? Another question I have for you is when does Caltrans estimate the reopening of this roadway segment on Airway Road between SR-905 and Sanyo Avenue?

Thanks in advance for your prompt reply.

Jessica Bavos
Transportation Planner

Darnell & Associates, Inc.
43300 Business Park Drive, Suite 204
Temecula, CA 92590

Phone: (951) 699-8209
Fax: (951) 699-8269
Email: jbavos@darnell-assoc.com

SR-905 1B Funding Correspondence

Jessica Bavos

From: Ismael Salazar [ismael_salazar@dot.ca.gov]
Sent: Thursday, April 30, 2009 9:20 AM
To: Jessica Bavos
Subject: Re: SR-905 funding for Phase 1B

Categories: Otay Mesa General

Yes. The majority of the funding is coming from the American Recovery and Reinvestment Act program, i.e. stimulus funding. We are scheduled to open bids today.

Ismael Salazar
Project Manager
(619) 688-6766

"Jessica Bavos"
<jbavos@darnell-assoc.com>

04/30/2009 09:07
AM

<Ismael.Salazar@dot.ca.gov>

To

cc

<vhaskell@darnell-assoc.com>,
"Bill Darnell"
<Bdarnell@darnell-assoc.com>

Subject

SR-905 funding for Phase 1B

Pye,

I was wondering if Phase 1B funding is fully secured? Could you update me on this information please.

Thank you,

Jessica Bavos
Transportation Planner

Darnell & Associates, Inc.
43300 Business Park Drive, Suite 204
Temecula, CA 92590

Phone: (951) 699-8209
Fax: (951) 699-8269
Email: jbavos@darnell-assoc.com

Memorandum

TAB 12

To: CHAIR AND COMMISSIONERS

CTC Meeting: April 15-16, 2009

Reference No.: 4.2
Action Item

From: CINDY McKIM
Chief Financial Officer

Prepared by: Ross Chittenden
Manager
Proposition 1B Program

Subject: **IMPLEMENTATION OF AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009 -
STATE RECOVERY ACT LOAN
RESOLUTION FS-08-04**

RECOMMENDATION:

The Department of Transportation (Department) recommends the California Transportation Commission (Commission) approve \$310 million of American Recovery and Reinvestment Act of 2009 (Recovery Act) funds for four high priority Proposition 1B projects pursuant to Assembly Bill X3 20.

The Department also recommends that this approval be contingent upon authorization from the State Treasurer's Finance Committee to advance bond projects with American Recovery and Reinvestment Act of 2009 (Recovery Act) funds in anticipation of reimbursement to the State Highway Account from proceeds of future bond sales, consistent with Assembly Bill X3-20.

ISSUE:

The attached list identifies four high priority, regionally significant Proposition 1B projects that have been stalled due to the inability of the State Treasurer's Office to sell bonds. The Department is proposing that \$310 million of Recovery Act funds be loaned to allow the projects to proceed with construction. The four projects have combined construction contracts worth \$1.5 billion creating more than 27,000 jobs in the State.

BACKGROUND:

Since December 17, 2008, the award of Proposition 1B-funded projects has been on hold due to the inability of the State Treasurer's Office (STO) to sell General Obligation (GO) bonds. Assembly Bill X3 20 (ABX3 20) provides that \$935 million in Recovery Act funds be made available to the California Department of Transportation (Department) for State Highway Operation and Protection Program (SHOPP) projects. ABX3 20 also established a process whereby the Department may loan up to \$310 million from SHOPP Recovery Act funds to support Proposition 1B-funded projects that have been stalled due to the State's inability to issue GO bonds.

The four projects recommended for Recovery Act funding were evaluated using several screening criteria including significance in the region for goods movement and job creation, potential for sustained economic development, ability to leverage local funds, and deliverability. Of paramount importance in selecting projects was the ability for the projects to be obligated within 120 days of federal apportionment. Early delivery of these projects will enable construction contracts to be awarded quickly creating jobs and putting people to work in the shortest time. Three of the four projects selected were the only projects considered with significant leveraging opportunities, while the fourth project had the highest productivity gain.

The four projects recommended will be advanced with \$310 million in Recovery Act funds to deliver combined construction contracts worth \$1.5 billion. The projects were also selected such that the north/south distribution of funds was attained as required by Assembly Bill X3 20.

Pursuant to Assembly Bill X3 20, the Recovery Act funds will be loaned to the projects and repayment will be made to the State Highway Account (SHA) from future bond sales. Once returned to the SHA, the funds will be programmed on SHOPP projects, which the Commission will allocate.

RESOLUTION FS-08-04:

Be it Resolved, that the California Transportation Commission does hereby approve \$310 million of American Recovery and Reinvestment Act of 2009 for the Route 24 Caldecott Tunnel project (PPNO 0057A), the Route 215 High Occupancy Vehicle Lane project Segments 1 and 2 (PPNO 0247P), the Route 405 in Los Angeles County project (PPNO 0851G), and the Route 905 in San Diego County project (PPNO 0703) in accordance with the attached list, and

Be it further resolved, that the advance of \$310 million in State Recovery Act funds is contingent upon approval from the Finance Committee to advance bond projects with Recovery Act funds in anticipation of reimbursement to the State Highway Account from proceeds of future bond sales, consistent with Assembly Bill X3-20.

Attachment

American Recovery and Reinvestment Act of 2009
Recommended Projects

Dist	County	Route	Project Description	Bond Program	Project Cost (\$1000s)	Region ARRA Contribution	State ARRA Contribution
11	SD	905	Construct 6 Lane Freeway Phase 1B	TCIF	\$105,200	\$0	\$78,300
7	LA	405	Northbound HOV Lane	CMIA	\$950,000	\$100,000	\$89,900
8	SBD	215	Add Mix-flow, HOV, and Aux Lanes	CMIA/STIP	\$425,900	\$61,500	\$49,100
4	CC/ALA	24	Construct 4th Bore to Caldecott Tunnel	CMIA/STIP	\$366,266	\$105,000	\$92,700
Totals					\$1,847,366	\$266,500	\$310,000

ERA Market Forecast



Economics Research Associates

Addendum Analysis

**Addendum to Real Estate Market
Analysis**

**Otay Mesa Community Plan Area
Otay Mesa, CA**

Submitted to

City of San Diego

Submitted by

Economics Research Associates

December 15, 2006

ERA Project No. 15640



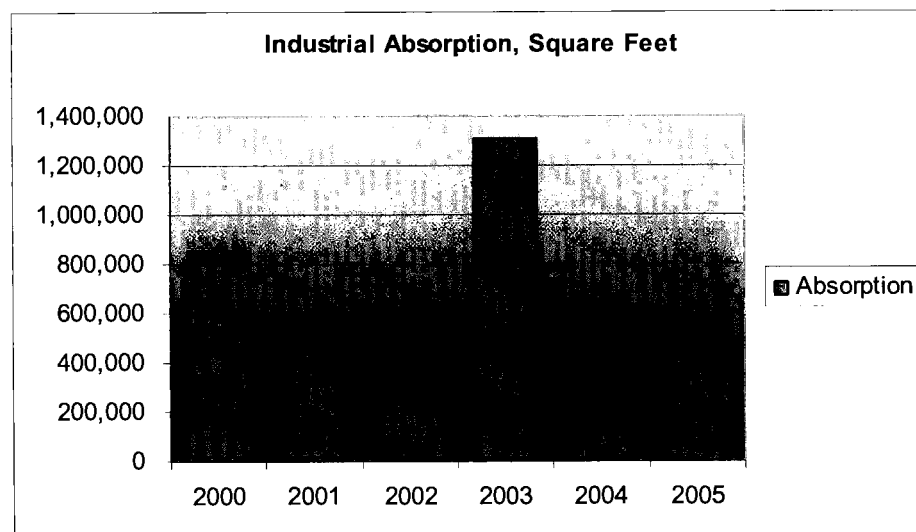
Economics Research Associates

Addendum

In the initial Otay Mesa Market Analysis (dated Nov. 7, 2005), ERA estimated the demand for additional developed gross acres between 2000 and 2030. ERA was requested to update these projections to reflect demand between 2006 and 2030.

While office and retail space absorption has been minimal in the Otay Mesa CPA, there has been approximately 3.6 million square feet of industrial absorption in Otay Mesa between 2000 and 2006. ERA has revised the industrial demand forecasts to reflect an update in projected countywide employment growth, as well as to reflect the industrial absorption between 2000 and 2006. With little new absorption since 2000, the office and retail demand projections have not been revised.

The table below displays the absorption of industrial space in the Otay Mesa area between 2000 and 2006.



Source: CoStar, Economics Research Associates

A total of more than 3.6 million square feet were absorbed between 2000 and 2006. Assuming a FAR of 0.4 and net-to-gross acreage ratio of 85% this equates to 245 gross industrial acres. Approximately 41 acres were absorbed between 2004 and 2006.

Industrial Space

Since the time of ERA's initial study, SANDAG has published updated employment growth forecasts for 2004 through 2030. Similar to the initial Market Analysis, ERA utilizes the new SANDAG employment growth forecasts to estimate the increase in supportable industrial space supply between 2004 and 2030. These figures are then adjusted by the actual industrial space absorption between 2004 and 2006 to calculate the expected industrial space demand between 2006 and 2030.



Economics Research Associates

It should be noted that the total industrial employment figures using the updated forecasts are not comparable to the previous total industrial figures. SANDAG's 2006 employment forecasts were developed using the more precise NAICS industry classifications, as opposed to the SIC industry classifications used in the previous 2003 forecasts. The NAICS categories have a lower employment base in the relevant industry categories, but higher growth.

Table A-1 presents projected growth for industrial space (including industrial, distribution, and R&D space) over time countywide, based on projected growth in those sectors that utilize industrial space and applying an average employment density factor per worker. With the revised employment projections, the San Diego region is projected to support an increase of 58 million square feet of industrial space between 2004 to 2030, compared to a base supply of approximately 178 million in 2004. At an average floor-area ratio of 0.40 and an 85% net-to-gross acreage factor, the 58 million square feet translates into demand for approximately 4,200 acres countywide from 2004 to 2030.

Table A-2 presents projected demand for industrial space in the Otay Mesa Community Plan area under the following three scenarios:

Low Scenario – Assumes that industrial growth rates in Mexico rebound from recent declines (though not necessarily at historical rates) and that Otay Mesa's market position diversifies and appeals to general industrial users that are priced out of the region's central industrial areas, such as Kearny Mesa. While it assumed that Otay Mesa's recent regional market share is not maintained as other industrial sectors in the region recover and generate demand in the more central competitive areas, Otay Mesa's market share overall during the period is still above historical levels.

Moderate Scenario – Assumes that industrial growth rates in Mexico rebound more strongly, that Otay Mesa's market position diversifies and strongly appeals to general industrial users (especially as improvements to SR-125 and SR-905 improve accessibility), and that Otay Mesa begins to attract a share of the region's growing technology sectors. Again, while it assumed that Otay Mesa's recent regionally market share is not maintained as other industrial sectors that generate demand elsewhere in the region recover, Otay Mesa's market share overall during the period is still above historical levels and growing at a more aggressive rate than under the Low Scenario. Otay Mesa's market share, however, is still below its share of regional land inventory due to market preferences for other sub-markets that still have significant supply and the intensification of industrial land use in the highly preferred central regional sub-markets.

High Scenario – This addresses a scenario whereby the high regional market share that Otay Mesa experienced during the last few years will be sustained and that Otay Mesa will aggressively capture more than its share of regional land supply due to: continued strong demand in warehousing/distribution; relocated manufacturing; infrastructure improvements and additional funding sources for infrastructure improvements; competitive land and occupancy costs; loss of industrial land in central locations to other uses; and limitations in industrial land intensification in the region.

The Otay Mesa capture rate of countywide demand and distribution of local demand between East Otay Mesa and the Otay Mesa Community Plan Area (CPA) for each scenario are expected



Economics Research Associates

to remain the same as originally forecasted. The same floor-area ratio, vacancy, and net-to-gross acre factors are also utilized. With the updated countywide demand, demand for new Otay Mesa CPA industrial space between 2004 and 2030 ranges from 802 acres in the Low Scenario to 1,310 acres in the High Scenario. After deducting the 40.5 acres of industrial space absorbed between 2004 and 2006, demand for industrial land in Otay Mesa between 2006 and 2030 is forecasted at 762 in the Low Scenario, 958 in the Moderate Scenario and 1,269 in the High Scenario.

Conclusions

Estimated demand for additional developed gross acres has been revised to reflect recent absorption and updated employment growth projections. Between 2006 and 2030, it is estimated that Otay Mesa can support the following increases in the amount of developed and occupied commercial and industrial land by 2030, beyond what was built in 2005:

**Estimated Demand for Additional Developed Gross Acres Within the Otay Mesa CPA
2006-2030**

	Low	Moderate	High
Industrial	762	958	1269
Office	20	25	29
Retail	87-109	87-109	87-109

Source: Economics Research Associates

Table A-1

REVISED SAN DIEGO COUNTY INDUSTRIAL SPACE DEMAND PROJECTIONS - 2004-2030

Employment (NAICS Categories)	Assumed % Using Industrial	2004		2010		CAGR 2004-2010		2020		CAGR 2010-2020		2030		CAGR 2020-2030	
		100,977	17,480	101,839	18,709	0.1%	1.1%	105,341	20,823	0.6%	1.8%	103,130	23,038	-0.4%	1.7%
Manufacturing	97%														
Construction	20%														
Transportation and Warehousing (1)	48%														
Wholesale Trade	100%														
Professional and Business Services (2)	18.5%														
Total		211,884	224,614	224,614	246,041			246,041	260,424			260,424	260,424		
Increase in Industrial Employment by Period				12,730	21,427			21,427	14,383			14,383	14,383		
Estimated Occupied Industrial Space/Employee (3)				1,314	1,192			1,192	1,091			1,091	1,091		
Total Increase in Industrial Space Demand by Period from Employment Growth				16,731,935	25,551,446			25,551,446	15,697,755			15,697,755	15,697,755		
Total Supportable Space Allowing for a Structural Vacancy of	7%			17,991,328	27,474,673			27,474,673	16,879,307			16,879,307	16,879,307		
Cumulative Increase in Supportable Industrial Space supply 2004-2030				17,991,328	45,466,001			45,466,001	62,345,308			62,345,308	62,345,308		

(1) Based on 2004 60% transportation and warehousing employment and 35% utilities employment.

(2) Estimate of scientific research and development percentage of industry category.

(3) Changing weighted-average factors based on projected changes in the employment growth by sector and each sectors assumed space/employment ratio.

Source: SANDAG, Economics Research Associates



Economics Research Associates

Table A-2
REVISED PROJECTED DEMAND FOR INDUSTRIAL SPACE IN OTAY MESA 2004-2030

	2004	2010	2020	2030
<u>Countywide</u>				
Estimated Increase in Industrial Space During Previous Period		17,991,328	27,474,673	16,879,307
<u>Otay Mesa Capture Rate Scenarios</u>				
Low Scenario		40.0%	20.0%	22.5%
Moderate Scenario		50.0%	25.0%	27.5%
High Scenario		50.0%	40.0%	45.0%
<u>Otay Mesa New Space Demand for Period at 7% Structural Vacancy</u>				
Low Scenario		7,196,531	5,494,935	3,797,844
Moderate Scenario		8,995,664	6,868,668	4,641,809
High Scenario		8,995,664	10,989,869	7,595,688
<u>Otay Mesa Cumulative New Space Demand at 7% Structural Vacancy</u>				
Low Scenario		7,196,531	12,691,466	16,489,310
Moderate Scenario		8,995,664	15,864,332	20,506,142
High Scenario		8,995,664	19,985,533	27,581,221
 Estimated Otay Mesa Demand Within City of San Diego				
Assumed % Within City of San Diego		95%	85%	65%
Low Scenario		6,836,705	4,670,694	2,468,599
Moderate Scenario		8,545,881	5,838,368	3,017,176
High Scenario		8,545,881	9,341,389	4,937,197
 Otay Mesa Community Plan Cumulative New Space at 7% Structural Vacancy				
Low Scenario		6,836,705	11,507,399	13,975,998
Moderate Scenario		8,545,881	14,384,249	17,401,425
High Scenario		8,545,881	17,887,270	22,824,467
 Cumulative Net New Acreage Demanded Based on Average FAR				
Assumed Average FAR		0.40	0.45	0.50
Low Scenario		392	587	642
Moderate Scenario		490	734	799
High Scenario		490	913	1,048
 Annual Gross New Acreage (net to gross ratio of 80%)				
Low Scenario		490	734	802
Moderate Scenario		613	917	999
High Scenario		613	1,141	1,310
 Cumulative Gross New Acreage Less 2004-2006 Developed Acreage				
Low Scenario		450	693	762
Moderate Scenario		573	877	958
High Scenario		573	1,100	1,269

Source: Economics Research Associates



Economics Research Associates

GENERAL LIMITING CONDITIONS

This study is based on estimates, general knowledge of the industry and consultations with the client and the client's representatives. No responsibility is assumed for inaccuracies in reporting by the client, the client's agent and representatives or any other data source used in preparing or presenting this study. Data research for this Addendum was conducted in October of 2006 with only review of industrial land supply data and employment growth projections. Economics Research Associates has not undertaken any other update of its research effort. No warranty or representation is made by Economics Research Associates that any of the projected values or results contained in this study will actually be achieved. This report is not to be used in conjunction with any public or private offering of securities or other similar purpose where it may be relied upon to any degree by any person other than the client without first obtaining the prior written consent of Economics Research Associates. This study may not be used for purposes other than that for which it is prepared. This study is qualified in its entirety by, and should be considered in light of, these limitations, conditions, and considerations.

This report was prepared at the request of the City of San Diego as part of the Otay Mesa Community Plan Update. It was prepared by Economics Research Associates and funded by the Otay Mesa Planning Coalition. The information, along with public and City staff comments, may be used by the Planning Department to develop land use plan alternatives.

SANDAG Series 11 Model for Otay Mesa 2020

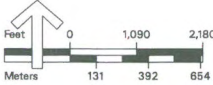
SANDAG Series 11
2030 Mobility Emphasis
Highway Network
Select Link Assignment
SR-11/Otay Mesa East

Model Run 03/05/10
 2020 Otay Mesa Alt 3 - 2015 Network, 2020 trip generation

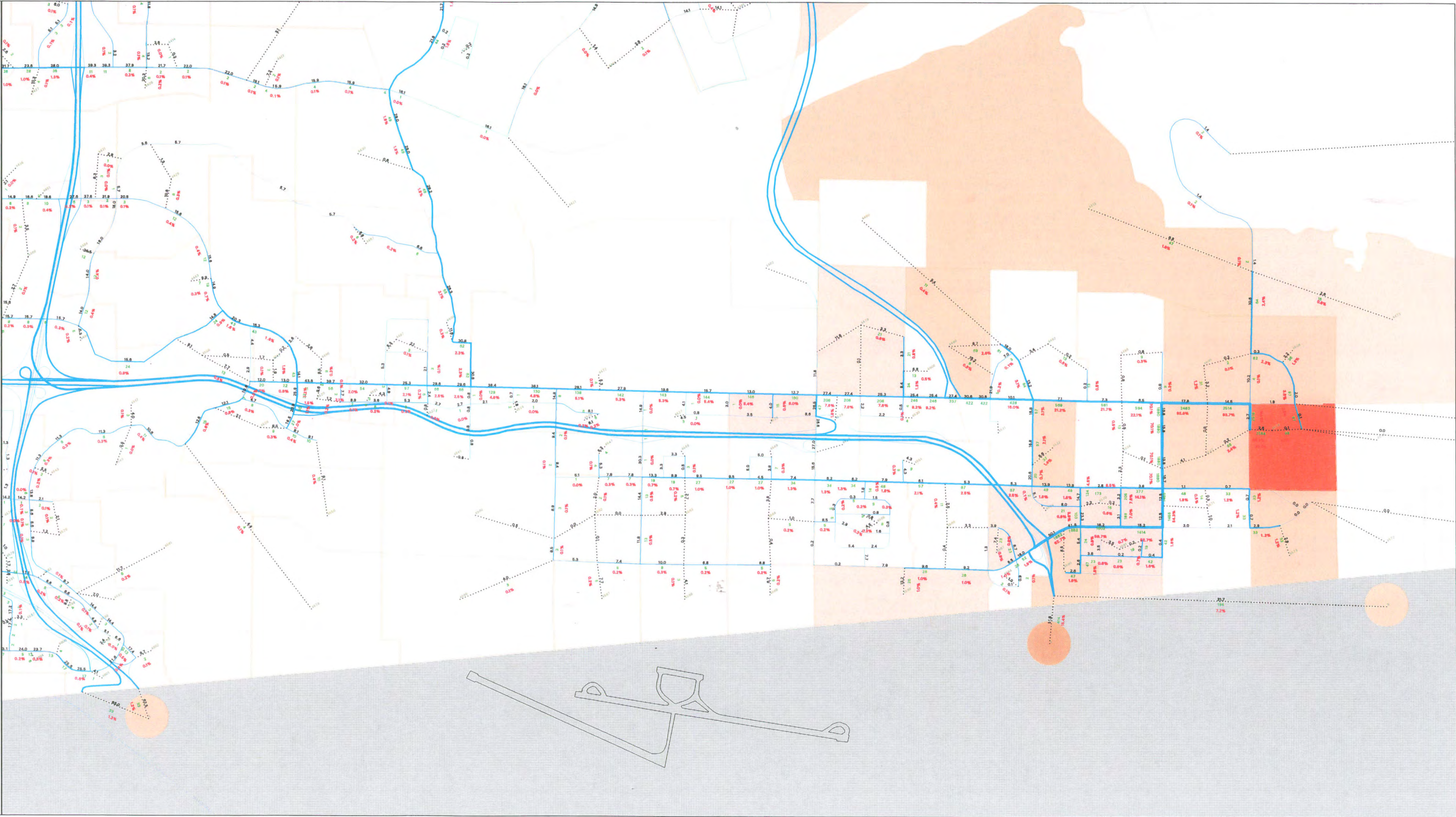
- Forecasted Volumes:
- # Unadjusted Forecast Volume
 - # Select Link Volume
 - # Select Link Percentage
 - # Traffic Analysis Zone

- Link Distributions:
- 100%
 - 50.1% -> 99.9%
 - 25.1% -> 50.0%
 - 10.1% -> 25.0%
 - 5.1% -> 10.0%
 - 0.1% -> 5.0%
 - 0%

- Zonal Distributions:
- 100%
 - 25.1% -> 99.9%
 - 10.1% -> 25.0%
 - 1.1% -> 10.0%
 - 0.6% -> 1.0%
 - 0.1% -> 0.5%
 - Zero Trips (0.0%)



March 12, 2010



**SANDAG Series 11
2030 Mobility Emphasis
Highway Network
Daily Traffic Volumes**



SR-11/Otay Mesa East

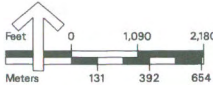
Model Run 03/05/2010
2020 Otay Mesa Alt 3 - 2015 Network, 2020 trip generation

Functional Classifications:

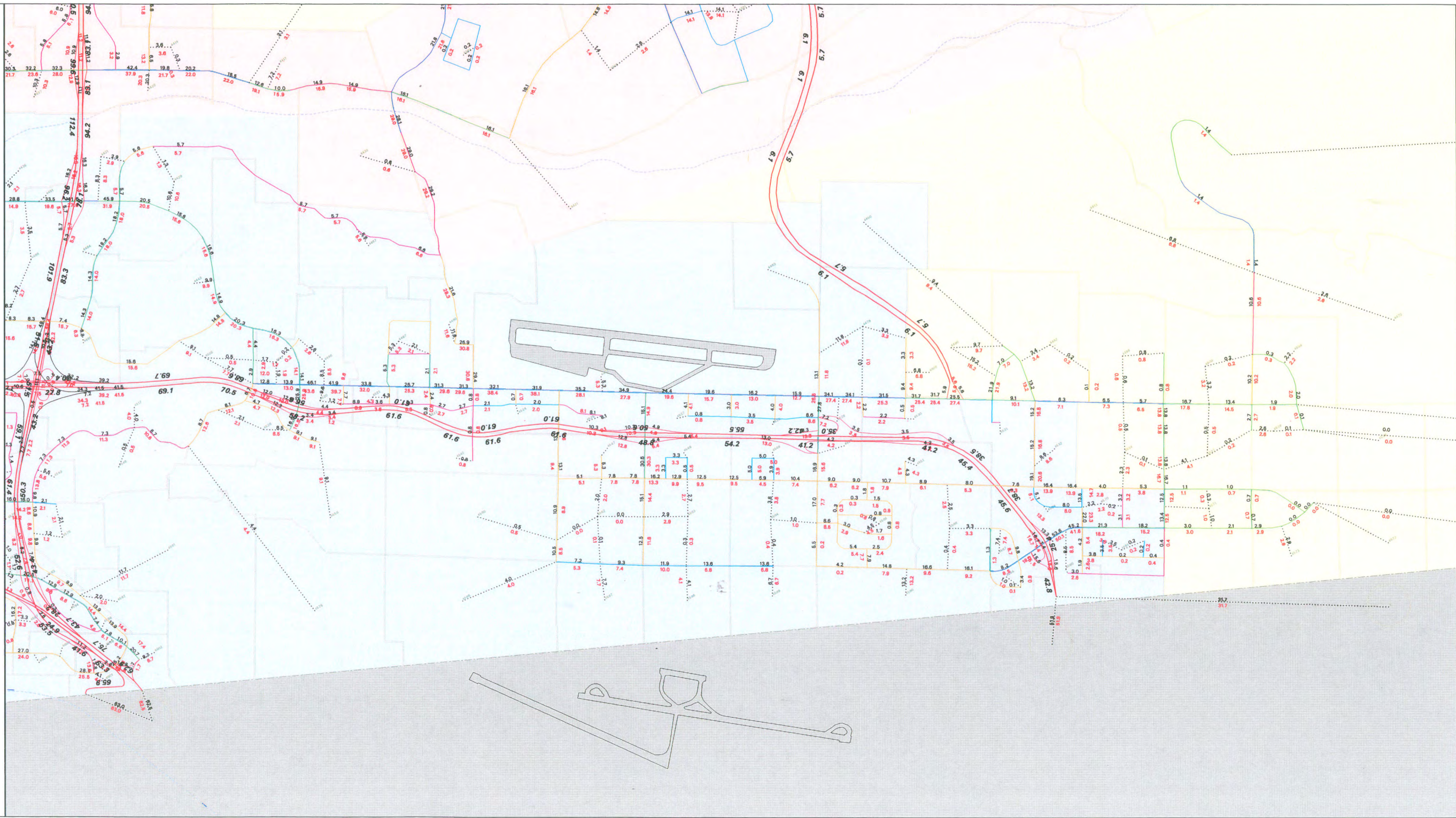
-  Freeway
-  Prime
-  Major
-  Collector
-  Local Collector
-  Rural Collector
-  Local
-  Freeway Connector
-  Ramp
-  Zone Connector
-  Light & Commuter Rail
-  Zone Boundary

Forecasted Volumes:

-  Adjusted Volume
-  Unadjusted Volume
-  Traffic Analysis Zone



March 4, 2010



B-43

APPENDIX C

- TIF Calculation Based on the April 2008 TIF Ordinance Update
- Excerpts from the County of San Diego TIF Program Update (January 2008)

TIF Calculation Based on the April 2008 TIF Ordinance Update

LAND DEVELOPMENT

SUBJECT: TRANSPORTATION IMPACT FEE (TIF) CALCULATION BASED
ON THE APRIL 2008 TIF ORDINANCE UPDATE

PURPOSE:

To define procedures for estimating the TIF for a proposed project in accordance with the TIF ordinance update approved by the Board of Supervisors on February 27, 2008 and effective on April 28, 2008.

INSTRUCTIONS:

1. Calculating TIF for Residential Projects

- a. Single Family Detached Units: Refer to the attached TIF rate table "COST PER SINGLE FAMILY DETACHED (SFD) RESIDENTIAL UNIT". Locate the appropriate TIF AREA. Select the total-per-unit cost, and multiply the unit cost by the number of units being constructed.
- b. Multi-Family Attached Units: For multi-family homes including duplexes, condominiums, apartments, hotel rooms, timeshare units, and accessory apartments (granny flats); refer to the attached TIF rate table, "COST PER MULTI-FAMILY ATTACHED HOME, CONDOMINIUM, APARTMENT, LODGING INCLUDING HOTEL ROOMS AND TIMESHARE UNITS, AND ACCESSORY APARTMENT (GRANNY FLATS)". Locate the appropriate TIF AREA. Select the total-per-Unit cost and multiply the unit cost by the number of units considered. For hotel rooms, each hotel room or suite is an individual unit.
- c. Mobile Homes Agriculture Labor Residential and Retirement Communities: Refer to the attached TIF rate table "COST PER MOBILE HOME, AGRICULTURE LABOR RESIDENTIAL (NON-PRIMARY RESIDENCE), AND RETIREMENT COMMUNITY". Locate the appropriate TIF AREA. Select the total-per-unit cost and multiply the unit cost by the number of units considered.

- d. Congregate Care Facilities (Nursing Homes): Refer to the attached TIF rate table "COST PER CONGREGATE CARE FACILITY". Locate the appropriate TIF AREA. Select the total-per-unit cost and multiply the unit cost by the number of units considered. Each individual room or suite is considered an individual unit.
- e. Subtract allowable credits and reductions as shown in paragraph 3 below.
- f. The total TIF for all units minus allowable credits and reductions is the TIF amount for the residential project.

2. Calculating TIF for Commercial and Industrial Projects

To assist staff with identifying the correct category for the wide variety of commercial, industrial, and office projects, attachment (A) will serve as a guide. To determine which TIF category will apply to a building, the TIF will be determined based on the building's predominate use. Revisions to attachment (A) may be made with approval of the Assistant Director of Public Works.

- a. General Commercial Projects: Refer to the attached TIF rate table "COST PER 1,000 SQUARE FOOT FOR GENERAL COMMERCIAL". Locate the appropriate TIF AREA and select the total-per-1,000-square-foot cost. Divide the cost-per-1,000-square-foot by 1,000 to determine the cost per square foot. Determine the total building floor area square footage. Multiply the cost per square foot by the total building area square footage to determine the TIF.
- b. Furniture Stores: Refer to the attached TIF rate table "COST PER 1,000 SQUARE FOOT FOR FURNITURE STORE". Locate the appropriate TIF AREA and select the total-per-1,000-square-foot cost. Divide the cost-per-1,000-square-foot by 1,000 to determine the cost per square foot. Determine the total building floor area square footage. Multiply the cost per square foot by the total building area square footage to determine the TIF.
- c. General Industrial: Refer to the attached TIF rate table "COST PER 1,000 SQUARE FOOT FOR GENERAL INDUSTRIAL". Locate the appropriate TIF AREA and select the total-per-1,000-square-foot cost. Divide the cost-per-1,000-square-foot by 1,000 to determine the cost per square foot. Determine the total building floor area square footage. Multiply the cost per square foot by the total building area square footage to determine the TIF.

- d. Storage, Warehousing, Wineries and Non-Residential Agriculture: Refer to the attached TIF rate table "COST PER 1,000 SQUARE FOOT FOR STORAGE, WAREHOUSING, WINERIES, NON-RESIDENTIAL AGRICULTURE". Locate the appropriate TIF AREA and select the total-per-1,000-square-foot cost. Divide the cost-per-1,000-square-feet by 1,000 to determine the cost per square foot. Determine the total building floor area square footage. Multiply the cost per square foot by the total building area square footage to determine the TIF.
- e. Offices: Refer to the attached TIF rate table "COST PER 1,000 SQUARE FOOT FOR OFFICES". Locate the appropriate TIF AREA and select the total-per-1,000-square-foot cost. Divide the cost-per-1,000-square-feet by 1,000 to determine the cost per square foot. Determine the total building floor area square footage. Multiply the cost per square foot by the total building area square footage to determine the TIF.
- f. Schools and Government Institutional: Refer to the attached TIF rate table "COST PER 1,000 SQUARE FOOT FOR SCHOOLS AND GOVERNMENT/INSTITUTIONAL". Locate the appropriate TIF AREA and select the total-per-1,000-square-foot cost. Divide the cost-per-1,000-square-feet by 1,000 to determine the cost per square foot. Determine the total building floor area square footage. Multiply the cost per square foot by the total building area square footage to determine the TIF.
- g. Select Industrial Uses: The Select Industrial Uses category is unique and is unlike the categories above. The TIF for this category must be calculated by the DPW Land Development Project Manager. For select industrial uses such as quarries, landfills, concrete and asphalt batch plants, or mining operations (this list is not all-inclusive; other select uses may need to use this TIF category), the applicant must perform a traffic study to determine their Average Daily Trips (ADT). Refer to the attached trip rate table "COST PER TRIP FOR SELECT INDUSTRIAL USES". Locate the appropriate TIF AREA and select the total-cost-per-trip. Multiply the total ADT from the traffic study by the applicable total-cost-per-trip to determine the TIF.
- h. There are typically no credits available for commercial, industrial, and office projects. The only exceptions are:
 - i. If existing structures are demolished as part of a project, then credit for the demolished structures may be granted. For example, if a single family detached home is demolished to

construct a commercial facility, compute the applicable TIF rate for the demolished home, and then subtract the single family home TIF from the commercial TIF. The remaining amount is the TIF due for the commercial project.

- ii. If a project has previously mitigated cumulative impacts as shown in paragraph 3 below, then credit can be allowed for previously mitigated impacts.
- i. In the event a commercial, industrial, or office project is eligible for credits, then the total TIF for the project minus allowable credits and reductions is the TIF amount for the project.

3. Credits and Reductions

a. Direct Impact Mitigation

- i. Direct Impact Mitigation credits are only available for residential projects. To determine the credit, identify if the project has direct impact mitigation on a TIF facility (i.e. see if the project must construct road improvements on a road identified as a TIF facility in the TIF reports). See <http://www.sdcounty.ca.gov/dpw/land/tif.html> for a link to maps of the TIF facilities.
- ii. Due to the complexity involved in determining direct impact mitigation credits, these credits must be verified by a DPW Land Development Project Manager.
- iii. If a project makes traffic-enhancing improvements to a TIF facility, determine the estimated allowable costs for the direct impact traffic-enhancing roadway improvements. The list of allowable costs is provided in Section 77.208 of the TIF ordinance in the paragraph dealing with Direct Impact Mitigation. Once the allowable costs are determined, these costs may be used as a credit to reduce the project's TIF. If the credits exceed the project's total TIF obligation, then the applicant is entitled to enter into a reimbursement agreement for the remaining credit amount. If the applicant chooses to enter into a reimbursement agreement, then he must follow the requirements of Section 77.210.
- iv. If a project does not have direct impact improvements on a TIF facility, in some rare circumstances, they may be entitled to TIF credit for direct impact improvements on alternative TIF facilities as shown below.

b. Alternative TIF Facility

- i. For residential developments that do not have direct improvements on a TIF facility, if the applicant can demonstrate in a traffic study approved by the County that their direct impact improvements on a non-TIF facility will reduce trips and increase capacity on TIF facilities, then the applicant may receive a TIF credit for these allowable direct improvements on a non-TIF facility.
- ii. Due to the complexity involved in determining alternative TIF facility credits, these credits must be verified by a DPW Land Development Project Manager.
- iii. If the DPW Land Development Project Manager determines a project has allowable costs on an alternative TIF facility, then the credits are computed using the same procedures used for direct impact mitigation credits as shown in paragraph 2a above.

c. Previously Mitigated Cumulative Impacts

- i. Credit for previously mitigated cumulative impact credit may be applied to any project type such as residential, commercial, industrial, or office projects. To be eligible for credit, the project must have completed a cumulative traffic study, must have already clearly identified the cumulative traffic impacts, and must have fully mitigated the identified impacts.
- ii. Due to the complexity involved in determining previously mitigated cumulative impact credits, these credits must be verified by a DPW Land Development Project Manager.

d. Opt Out

- i. In lieu of paying the TIF, an applicant may choose to prepare a cumulative traffic study in accordance with CEQA guidelines, which no longer recognize "de minimus" findings, identify the necessary mitigation for the project's cumulative traffic impacts, and construct appropriate mitigation.
- ii. Due to the complexity involved in the opt out process, this procedure must be managed by a DPW Land Development Project Manager.

e. Credit for Demolished Facilities

- i. When a project demolishes facilities as part of a new construction project, the demolished facilities will be handled the same way tenant improvements and minor expansions are handled in the TIF ordinance Section 77.215 Applicability. The demolished facilities square footage will be considered the same as space for a change of occupancy. Additionally, the first 1,000 square feet of expansion above the demolished square footage will be exempt from TIF.
- ii. As an example of the above, if a new 25,000 square foot (SF) General Industrial Facility demolishes 10,000 square feet of General Commercial space, then the TIF for the General Industrial facility will be based on 25,000 SF minus the demolished space of 10,000 SF. This calculation would then be further reduced for the minor expansion exemption of 1,000 square feet. TIF for this facility would be based on 14,000 SF at the General Industrial rate.
- iii. If the demolished facilities are residential and the new construction is non-residential, then the TIF credit for the demolished facility will be computed on a cost basis. For instance, if two Single Family Detached homes are demolished as part of a new 20,000 square foot shopping center, then the General Commercial TIF for the shopping center will be reduced by the applicable TIF cost for the two residential units.
- iv. If the demolished facilities are non-residential and the new construction is residential, then the TIF credit for the demolished facility will be computed on a cost basis. For instance, if 5,000 square feet of Warehouse-Storage space is demolished for construction of six Multi-Family residential units, then the TIF for the six residential units will be reduced based on the TIF cost for the 5,000 SF of Warehouse-Storage space calculated using the Warehouse-Storage TIF rate.

f. Credit and Reduction Examples

- i. TIF Amount: A 10,000 square foot drugstore on Alpine Blvd in Alpine. As shown in the General Commercial table, the Alpine TIF Area total-cost-per-1,000-square-feet is \$9,235. Divide this number by 1,000 to determine the cost per square foot of \$92.35. Multiply \$92.35 per square foot by the drug stores floor area of 10,000 square feet to determine the project's TIF amount of \$92,350.

Credit: Alpine Blvd is a TIF facility. The estimated direct impact mitigation on Alpine Blvd for this project is \$76,750; however, credits or reductions are not available for the General Commercial TIF. This project does not qualify for credit, and the TIF remains \$92,350.

- ii. TIF Amount: 100 unit single family detached (SFD) development in Fallbrook with direct impact frontage improvements including adding a \$1 million traffic lane and bridge on Old 395 from Dulin to West Lilac. The unit cost for a SFD in Fallbrook is \$12,067, so the total TIF obligation is \$12,067 per unit times 100 units which equals a TIF due of \$1,206,700.

Credit: Old 395 is a TIF facility. Estimated direct impact mitigation for this project is \$1 million. Upon verification by the Project Manager, the \$1 million can be applied as a TIF Credit or Reduction to the fee. The actual TIF cost for the project including the reduction will be \$206,700.

- iii. TIF Amount: A warehouse in Ramona is being converted into an auto repair facility. The General Commercial TIF rate in Ramona is \$16,035 per 1,000 square feet. As shown in Section 77.215(e) of the TIF ordinance, tenant improvements to an existing non-residential facility including changes of occupancy or use are exempt from the TIF. The TIF for this project is \$0.

For questions or assistance determining a project's TIF amount, please contact the Department of Public Works Land Development section at (858) 694-2055.

REFERENCES:

Title 7, Division 7 County Regulatory Code – Transportation Impact Fees

ATTACHMENTS:

Assignment of Land Uses to TIF Categories (Attachment A)
TIF Calculation Tables (Attachment B)

APPROVED BY:



JOHN L. SNYDER, DIRECTOR

EFFECTIVE DATE: December 8, 2005
REVISION DATE: April 28, 2008
SUNSET DATE: April 28, 2014

Assignment of Land Uses to TIF Categories (TIF is based on primary use of facility)

General Commercial (Retail Facilities)

Automotive	Commercial Boxing and Martial Arts Studios	Key Shop
- Body Shop, Upholstry	Commercial Dance Studios	Laundromat/Self-Serve Laundry
- Car Wash	Commercial Plant Nurseries	Lumber Stores
- Electronics, Alarm, Stereo Sales &/or Repair	Commercial Strip Malls	Medical Supply Sales
- Gas Stations	Computer Sales & Service	Metal Supply Sales
- Parts sales	Computer Sales, Leasing, or Repair	Mobile Home Sales
- Rental and/or leasing	Concert Halls	Motorcycle Sales & Repair
- Repair &/or Service	Convenience Stores	Museums
- Sales	Craft Shops	Night Clubs
- Tire Sales &/or Repair	Department Stores	Office Supplies
- Window Tinting	Dry Cleaner Shop	Paint Store
- Windshield and Glass Repair	Eating Establishments	Photography or Photo Processing Store
Appliance Sales, Installation, and/or Repair	Electronics Retail Stores	Postal, Copying, Shipping, &/or Printing Stores
Arcades	Entertainment Facilities	Rental Stores
Art Galleries & Dealers	Fast Food Restaurants	Restaurants
Bakeries (retail)	Feed Stores	Retail Eyeglass Store
Barber Shop, Beauty Salon, Nail Salon, Spa	Florist Shop	Retail Stores
Bars	Gardening Stores/Commercial Nurseries	Shopping Centers
Boat Sales and Repair	Golf Pro Shop	Tattoo Parlors
Bowling Alleys	Grocery Stores	Theaters
Carpet or Flooring Store	Gun Shops	Ticket Agencies
Chemical Sales Store	Gymnasiums & Health and Fitness Clubs	Truck Stop or Travel Center
Coffee Shops	Hardware Stores	Video or Computer Game Stores
Commercial Aviation Facilities/Terminals	Juice Bars	Weight-Loss or Nutrition Stores (retail)

Furniture Store

Antique Store
Estate Liquidators
Furniture Store
Office Furniture Supply & Installation

General Industrial

Animal Shelter/Kennel	Facility Alarm System Installation & Repair	Light Industrial Service Facilities
Armored Car Service	Film Production Studio	- Air Duct Cleaning
Assembling & Fabrication Facilities	Fuel Distribution Facilities	- Appliance Repair
Automotive Salvage	Gun Shooting Range (no on-site sales)	- Carpet Cleaning
Automotive Towing	Hazardous Waste Removal	- Carpet Installation (no on-site sales)
Bakeries (Manufacturing w/no on-site sales)	Heavy Construction Equipment Leasing	- Computer Cable Installation
Bathroom and Kitchen Renovation (no on-site sales)	Heavy Construction Equipment Repair	- Elevator Maintenance
Bottled gas supply (acetylene, etc.)	Heavy Construction Equipment Sales	- Garage Door Repair,
Campground or Motor Home Park	Home Remodeling	- Glass Repair & Replacement
Cell Phone Towers	Laboratories for Research & Development	- HVAC, Plumber, Electrician, Welder, etc.
Churches, Synagogues, Mosques, or Temples	Large Truck Repair	- Industrial Equipment Supply and Repair
Community Centers or Youth Centers	Laundry Processing (no on-site sales)	- Instrumentation Calibration & Repair
Computer Server Facilities (non-commercial)	Manufacturing/Processing Facilities	- Irrigation System Installation & Repair
Construction &/or Demolition Companies	Medical Equipment Maintenance	- Janitors or Specialized Cleaning
Distribution Centers (no on-site sales)	Mobile Phone Towers	- Landscaping Maintenance
- Food &/or Beverage	Not-for-Profit Recreation Centers (e.g. YMCA)	- Limousine Service
- Catalogue Sales	Parking Garages (non-residential)	- Machine Shop
- Other Non-Retail Distribution Centers	Photographic Processing Lab (no on-site sales)	- Pest Control
- Florist Distributor	Pool Installation	- Security Guard Service
- Freight, Packages, and Mail	Reprographic Facilities	
- Fuel (gasoline, propane, natural gas)	Sandblasting Facility	
- Chemicals	Telephone Call Centers	
Diving Salvage Facilities (no on-site sales)	Telephone Service Facilities	
Document Destruction	Trucking Companies	
Drilling Companies	Video Production Facilities	
Furniture Repair		

Storage, Warehousing, Wineries, Non-residential Agricultural

Agricultural Packing Facilities	Moving Companies
Aircraft Hangars & General Aviation Facilities	Storage Warehouses
Cemetaries	Wholesale Nurseries
Document Storage Facilities	Wine Tasting Rooms
Horse Stables	Wineries
Mini-Storage Warehouses	

Offices

Accountant Offices	Drug Rehabilitation Offices	Optometrist Office
Advertising Agencies	Engineering/Architectural Design Offices	Photography
Attorney Offices	Financial Planner Offices	Real Estate Offices
Bail Bond Office	Hospitals	Real Estate Offices
Banks and Savings & Loans	Insurance Sales and Service	Tax Preparation Services
Chiropractic Clinics	Mapping Services	Travel Agencies
Computer Software Development	Medical Clinics	Veterinary Clinics
Counseling Offices	Medical Offices	
Currency Exchange	Mortuaries	
Dental & Othodonic Clinics	Offices for Reserarch & Development	

Schools, and Government/Institutional

Academic Testing Centers	Language Schools	Traffic Schools
Acting Schools	Library	Tutoring Centers
Day Care/Pre-School	Police Station	
Elementary, Middle, and High Schools	Post Office	
Fire Station	Prisons & Jails	
Kindergartens	Technical Schools	

Select Industrial

Borrow Pit Operations
Concrete & Asphalt Production (Batch Plants)
Landfills
Mining Operations
Power Generation Plants
Quarry Operations

Calendar Year 2009

TIF AREA	COST PER 1,000 SQUARE FOOT FOR GENERAL INDUSTRIAL			
	Freeway Ramp	Local	Regional	Total
Alpine	\$176	\$2,048	\$1,261	\$3,485
Bonsall	\$41	\$7,133	\$1,112	\$8,286
Central Mountain	\$3	\$0	\$1,912	\$1,915
County Islands	\$176	\$0	\$2,089	\$2,265
Crest-Dehesa	\$176	\$1,139	\$1,627	\$2,942
Desert	\$3	\$353	\$1,912	\$2,268
Fallbrook	\$41	\$6,875	\$1,221	\$8,136
Jamul-Dulzura	\$176	\$2,468	\$1,084	\$3,728
Julian	\$3	\$0	\$1,912	\$1,915
Lakeside (includes Pepper Dr- Bostonia)	\$176	\$4,556	\$244	\$4,977
Mountain Empire	\$3	\$0	\$1,912	\$1,915
North County Metro	\$41	\$1,939	\$3,214	\$5,194
North Mountain	\$3	\$0	\$1,912	\$1,915
Otay	\$176	\$746	\$1,790	\$2,712
Pala-Pauma	\$41	\$1,329	\$3,458	\$4,827
Pendleton-De Luz	\$41	\$14	\$3,987	\$4,041
Rainbow	\$41	\$5,045	\$1,952	\$7,038
Ramona	\$3	\$6,048	\$0	\$6,052
San Dieguito	\$41	\$3,662	\$2,509	\$6,211
Spring Valley	\$176	\$746	\$1,790	\$2,712
Sweetwater	\$176	\$1,478	\$1,478	\$3,132
Valle De Oro	\$176	\$5,194	\$0	\$5,370
Valley Center	\$41	\$2,902	\$2,821	\$5,763

* As required in the TIF ordinance, TIF Rates are updated annually on January 1 based on the September-to-September Engineering News Record Construction Cost Index (ENR CCI) for the Los Angeles Area or 2.0%, whichever is greater. The applicable September 2007-to-September 2008 ENR CCI was 1.9%, so the TIF must be increased by 2.0% (the greater amount). The TIF increase applied on January 1, 2009 was an increase of 2.0%. All TIF Rates are rounded to the nearest dollar.

Excerpts from the County of San Diego TIF Program Update (January 2008)

TIF Ordinance Update Adopted By the Board of Supervisors on February 27, 2008
(Effective April 27, 2008)

**AN ORDINANCE TO AMEND THE SAN DIEGO COUNTY CODE RELATED TO
THE TRANSPORTATION IMPACT FEE**

The Board of Supervisors of the County of San Diego ordains as follows:

Section 1. The Board of Supervisors finds and determines that it is necessary to amend Sections 77.204, 77.207, and 77.208, 77.209, 77.210, 77.211, 77.213, 77.214, 77.215 and 77.217; to add Sections 77.208.1 and 77.208.2 and 77.210.1; and to repeal Section 77.212 of the San Diego County Code pertaining to the Transportation Impact Fee. The amendments made by this ordinance are intended to adjust language in the Transportation Impact Fee Ordinance.

NOTE: Ordinance Sections 77.201, 77.202, 77.203, 77.205, 77.206, 77.212.5, 77.216, 77.218, and 77.219 were unchanged in the 2008 TIF Update

SEC. 77.201. TITLE

This Division shall be known as the Transportation Impact Fee (TIF) Ordinance and may be cited as such.

SEC. 77.202. PURPOSE

The purpose of this Division is to make provision for assessing and collecting fees as a condition of approval of a subdivision map or prior to issuance of a development permit, including a building permit, to defray the actual or estimated costs of constructing planned transportation facilities necessary to accommodate increased traffic generated by future development consistent with §§ 66000 et seq. of the California Government Code (Mitigation Fee Act). Application of this fee will include, but is not limited to, development for residential, commercial and industrial land uses.

The fees collected pursuant to this Division are to fund identified transportation facilities, or portions thereof, that will provide increased road capacity necessitated by the cumulative impacts of future development. The transportation facilities for which these fees are collected are identified as "TIF Facilities" in the adopted TIF Reports. Further studies, including environmental review, may show superior alternative facilities that also provide the needed increased capacity. Once such studies are completed, fees collected under this Division may be used to fund those superior alternative facilities.

Development projects required to provide transportation improvements that are not part of an identified TIF Facility, will be required to construct those improvements, in addition to payment of the TIF.

SEC. 77.203. FINDINGS

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The Board of Supervisors, consistent with Cal. Gov't Code §§66000 et seq. of the Mitigation Fee Act, finds that:

- (1) The further development of property within the County, as detailed on the Transportation Impact Fee (TIF) Area Maps, will require the construction of additional transportation facilities.
- (2) The fees established herein are based upon estimated costs of identified transportation facilities, or portions thereof, the costs of which have been apportioned to each TIF Area based on relative vehicular volumes attributable to future development.
- (3) There is a reasonable relationship between construction of identified transportation facilities, or portions thereof, and the additional vehicular trips attributable to future development.
- (4) There is a reasonable relationship between the need for identified transportation facilities, or portions thereof, and the future development.
- (5) There is a reasonable relationship between the amount of the fee and the cost of transportation facilities, or portions thereof, attributable to future development.
- (6) The imposition of Transportation Impact Fees on all new development associated with the generation of new traffic within the TIF Areas is necessary in order to protect the public health, safety and welfare and in order to assure effective implementation of the County's General Plan.

Section 2. Section and 77.204 of the San Diego County Code of Regulatory Ordinances is hereby amended to read as follows:

SEC. 77.204. DEFINITIONS

Whenever the following words are used in this Division, they shall have the meaning ascribed to them in this section.

- (a) AGRICULTURE means farming, crop production, or raising of poultry or livestock. Agricultural uses in this ordinance do not include residential facilities.
- (b) APPLICANT means developer or person seeking a development permit.
- (c) BUILDING PERMIT means a permit required by and issued pursuant to the Uniform Building Code.
- (d) CONSTRUCTION means design, performance of estimates, environmental assessments and studies, determination of fees, acquisition of right-of-way, administration of construction contracts and actual construction.
- (e) COUNTY means the County of San Diego, State of California.

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- (f) COUNTY HEARING BODY means the County of San Diego, Board of Supervisors, Planning Commission, or any other official, board, or commission designated by the County for decision-making on discretionary actions.
- (g) DEVELOPER means the owner or developer of a development seeking a development permit.
- (h) DEVELOPMENT PERMIT means any discretionary permit, entitlement, approval for a development project, or any ministerial permit, including building permit, associated with the generation of traffic issued under any ordinance of the County.
- (i) DEVELOPMENT PROJECT or DEVELOPMENT means any activity described in Cal. Gov't Code §66000 of the Mitigation Fee Act.
- (j) DPW DIRECTOR means the County Director of the Department of Public Works, or his or her designee.
- (k) FEE means the fee as set forth in Section 77.208 of this Division.
- (l) FREEWAY RAMP means the interchange freeway ramps identified in the "County of San Diego Transportation Impact Fee Report Update" date January 2008.
- (m) FURNITURE STORE means a commercial facility for the sale of moveable articles such as tables, chairs, sofas, desks, or cabinets required for use or ornament in a residence, office, or the like.
- (n) GENERAL COMMERCIAL includes but is not limited to shopping centers, strip development and commercial clusters, retail sales facilities including grocery stores and department stores, convenience stores, auto sales and repair facilities, hardware and lumber stores, gardening and nursery stores, eating and drinking establishments including fast food restaurants, and any other retail uses other than furniture stores that are not specifically included in other TIF category definitions.
- (o) GENERAL INDUSTRIAL means facilities for manufacturing, processing, assembling, distribution services, laboratories for research and development, construction equipment sales and repair, and any industrial use other than warehouse and storage that are not specifically included in other TIF category definitions.
- (p) WAREHOUSING AND STORAGE means all types of warehouses or facilities with the primary purpose being to provide storage space.
- (q) NON-RESIDENTIAL means development that does not include residential uses.

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- (r) OFFICE means facilities for administrative or professional services and includes but is not limited to hospitals, medical clinics, insurance sales, banks, savings and loans, and real estate services.
- (s) RESIDENTIAL means development composed of single-family dwellings, multi-family attached homes, condominiums and apartments, lodging including hotel rooms and time-share units, mobile homes, facilities for housing agricultural workers, retirement communities, and congregate care facilities for persons unable to care for themselves.
- (t) SCHOOLS mean institutions for instruction in a particular skill or field.
- (u) TIF means Transportation Impact Fee.
- (v) SELECT INDUSTRIAL means industrial uses such as quarries, mining operations, concrete & asphalt plants, borrow pit operations, or landfills that have minimal buildings but generate traffic.
- (w) TIF AREA means the area lying within the boundaries designated on the TIF Area Map.
- (x) TIF AREA MAP means a map showing the boundaries of each TIF Area. The TIF Area Map may be changed or periodically updated by action of the Board of Supervisors. The TIF Area Map is included as Figure 1 of the TIF Reports.
- (y) TIF FACILITIES means the transportation facilities, or portions thereof, including intersections and traffic signals, identified in the TIF Reports, or future County approved alternatives that substantially fulfill the transportation needs identified and represented by a listed facility.
- (z) TIF REGION means the area lying within the boundaries designated on the TIF Region Map.
- (aa) TIF REGION MAP means a map showing the boundaries of each TIF Region. The TIF Region Map may be changed or periodically updated by action of the Board of Supervisors. The TIF Region Map is included as Figure 2 of the TIF Reports.
- (ab) TIF REPORTS means the "Fallbrook and Ramona Transportation Impact Fee Report" and the "County of San Diego Transportation Impact Fee Report" both dated January 2005 and adopted by the Board of Supervisors on April 13, 2005. Additionally, TIF REPORTS include the "County of San Diego Transportation Impact Fee TIF Program Update" dated January 2008. These reports shall be changed or periodically updated by action of the Board of Supervisors pursuant to Section 77.213 of this Division. The current adopted reports are on file with the Clerk of the Board.

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(ac) WINERY means an establishment for producing wine and may include wine tasting rooms.

SEC. 77.205. TIF AREAS ESTABLISHED

TIF Areas for the County are hereby established. Said TIF Areas are depicted upon the TIF Area Map and any amendments thereto.

SEC. 77.206. PLANNED TRANSPORTATION FACILITIES

The Board of Supervisors hereby finds that future development projects will require the construction of identified transportation facilities, or portions thereof, or alternatives thereto described in the TIF Reports. Said transportation facilities, or portions thereof, shall hereinafter be referred to as "TIF Facilities." The Board of Supervisors further finds that future development projects within each said TIF Area will be benefited by construction of the TIF Facilities proposed. The listed facilities and their alternatives represent future needs and are not proposed projects. To become a Proposed Improvement Project requires a complete study of alternative routes, environmental review, and approval by the Board of Supervisors as part of the DPW detail-work program.

Section 3. Section 77.207 and 77.208 of the San Diego County Code of Regulatory Ordinances are hereby amended to read as follows:

SEC. 77.207. ESTIMATED COSTS

The Board of Supervisors also finds that the total estimated costs effective through September 2004 and updated annually each January starting in January 2006, for all TIF Facilities within each said TIF Area are as set forth in the TIF Reports.

SEC. 77.208. FEE ESTABLISHED

Pursuant to Cal. Gov't Code §§ 66000 et seq. of the Mitigation Fee Act, the fee set forth in said TIF Reports and Alternative Fee Schedules adopted by action of the Board of Supervisors shall be paid by development within the TIF Areas established herein. Instructions for estimating a project's TIF can be found on a link at:
<http://www.sdcountry.ca.gov/dpw/land/tif.html>.

Section 4. Section 77.208.1 and 77.208.2 of the San Diego County Code of Regulatory Ordinances is hereby added to read as follows:

SEC. 77.208.1. RESIDENTIAL TIF FEES

The following are the Residential TIF Fees:

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TIF AREA	COST PER SINGLE FAMILY DETACHED (SFD) RESIDENTIAL UNIT			
	Freeway Ramp	Local	Regional	Total per Unit
Alpine	\$150	\$1,812	\$3,294	\$5,256
Bonsall	\$41	\$6,312	\$5,942	\$12,295
Central Mountain	\$3	\$0	\$2,195	\$2,198
County Islands	\$150	\$0	\$3,294	\$3,444
Crest-Dehesa	\$150	\$1,008	\$3,294	\$4,452
Desert	\$3	\$312	\$2,196	\$2,511
Fallbrook	\$41	\$6,084	\$5,942	\$12,067
Jamul-Dulzura	\$150	\$2,184	\$3,294	\$5,628
Julian	\$3	\$0	\$2,195	\$2,198
Lakeside (includes Pepper Dr- Bostonia)	\$150	\$4,032	\$3,294	\$7,476
Mountain Empire	\$3	\$0	\$2,195	\$2,198
North County Metro	\$41	\$1,716	\$5,942	\$7,699
North Mountain	\$3	\$0	\$2,195	\$2,198
Otay	\$150	\$660	\$3,294	\$4,104
Pala-Pauma	\$41	\$1,176	\$5,942	\$7,159
Pendleton-De Luz	\$41	\$8	\$5,942	\$5,991
Rainbow	\$41	\$4,464	\$5,942	\$10,447
Ramona	\$3	\$5,940	\$2,196	\$8,139
San Dieguito	\$41	\$3,240	\$5,942	\$9,223
Spring Valley	\$150	\$660	\$3,294	\$4,104
Sweetwater	\$150	\$1,308	\$3,294	\$4,752
Valle De Oro	\$150	\$4,608	\$3,294	\$8,052
Valley Center	\$41	\$2,568	\$5,942	\$8,551

To determine the TIF for other residential land uses other than single-family detached (SFD) residential units, the following formula shall be used:

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- (1) Multi-family attached home, condominium, apartment, lodging including hotel rooms and time-share units, and accessory apartment (granny flat): 67% of SFD fee per unit
- (2) Mobile home, agricultural labor residential (non-primary residence), and retirement community: 33% of SFD fee per unit
- (3) Congregate Care Facility for persons unable to care for themselves: 20% of SFD fee per unit

Mixed-use development incorporating non-residential and residential uses shall have the non-residential TIF computed as shown in Section 77.208.2, and the total TIF amount shall be the non-residential TIF amount plus the applicable unit costs for any residential units. Adjustment of fees may be made pursuant to Section 77.213 of this Division.

Credits and reductions for residential development:

After calculation of a development's total residential TIF, applicants can subtract amounts including but not limited to the following credits and reductions:

Direct Impact Mitigation:

For residential developments, applicants may receive credit up to their total TIF obligation for direct impact mitigation improvements to a TIF facility. For direct impact improvement costs greater than the total TIF obligation, a reimbursement agreement for cash or credit will be allowed prior to construction of the improvements pursuant to Section 77.210, Section 77.210.5, and Section 77.211. Allowable costs for TIF facility improvements include Design, Civil Engineering, Soils Engineering, Landscape Architecture, Surveying, Bonds, Construction Management and Inspection, Permits, Off-Site Environmental Mitigation and associated costs for monitoring, Acquisition of Off-Site Right-of-Way, Utility Engineering/ Coordination, Environmental Consulting, and other project costs as allowed by the DPW Director in addition to construction costs. On-Site Right-of-Way and On-Site Environmental Mitigation are not eligible for TIF credit. Direct impact mitigation eligible for TIF credit shall include improvements which result in capacity improvements to a TIF facility including but not limited to new road construction, widening of an existing road, construction or improvement of intersections, through lanes and turn lanes, and construction or modification of signalization at intersections.

Alternative TIF Facilities:

For residential developments, applicants that can demonstrate in a traffic study approved by the County that their direct improvements constructed on a non-TIF facility will reduce trips and increase capacity of TIF facilities may receive credit toward their

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project's TIF obligation. An example of an alternative TIF facility could be a non-TIF road that runs parallel to a TIF facility. If improvements on the parallel non-TIF road can be shown to remove trips from or otherwise enhance operation of the parallel TIF facility, then the non-TIF improvements may be eligible for TIF credit. These improvements on alternative TIF facilities that increase capacity of TIF facilities may be considered for credit in the same way as Direct Impact Mitigation on TIF facilities.

Previously Mitigated Residential Project:

Residential development projects which have mitigated cumulative impacts prior to implementation of the TIF may receive credit toward the TIF. Project applicants requesting adjustment of the adopted fee must have completed a cumulative traffic study and already fully mitigated cumulative impacts. Applicants claiming exemption from the fee must demonstrate to the County that all cumulative impacts were clearly identified, through a cumulative traffic study, and fully mitigated through physical improvements or contribution to future road network improvements in an amount equal to the fee. Projects that analyzed cumulative impacts through a cumulative traffic study and mitigated for cumulative impacts may submit previous traffic studies to the County for consideration of a TIF credit. Amount of credit granted will be proportional to past mitigation compared to mitigation required by TIF. If the project has changed from the time of original approval so that the proposed use is now more impactive to traffic, applicants must pay a portion of the TIF equal to the cumulative impact increase. If the project mitigated to the full extent of the TIF required mitigation, then full credit up to the project's TIF obligation will be granted.

For approved projects with identified cumulative mitigation measures that have not yet been implemented, the County may, at its option and, upon further environmental review if necessary, require either completion of the originally identified mitigation or payment of the TIF.

Opt out:

In lieu of paying the TIF, a developer may choose to prepare cumulative traffic studies in accordance with the new CEQA guidelines then in effect, which no longer recognize de minimus findings, and construct appropriate mitigation. The cumulative traffic analysis must be approved by the DPW Director or his designee prior to construction of such mitigation.

SEC. 77.208.2. NON-RESIDENTIAL TIF FEES

The following are Non-Residential General Commercial TIF Fees:

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General Commercial TIF fee = Cost per 1,000 Square Foot multiplied by the Facility
Floor Square Footage divided by 1,000

TIF AREA	COST PER 1,000 SQUARE FOOT FOR GENERAL COMMERCIAL			
	Freeway Ramp	Local	Regional	Total
Alpine	\$467	\$5,426	\$3,342	\$9,235
Bonsall	\$108	\$18,901	\$2,946	\$21,955
Central Mountain	\$9	\$0	\$5,066	\$5,075
County Islands	\$467	\$0	\$5,534	\$6,001
Crest-Dehesa	\$467	\$3,018	\$4,312	\$7,797
Desert	\$9	\$934	\$5,067	\$6,010
Fallbrook	\$108	\$18,217	\$3,234	\$21,559
Jamul-Dulzura	\$467	\$6,539	\$2,874	\$9,880
Julian	\$9	\$0	\$5,066	\$5,075
Lakeside (includes Pepper Dr- Bostonia)	\$467	\$12,073	\$647	\$13,187
Mountain Empire	\$9	\$0	\$5,066	\$5,075
North County Metro	\$108	\$5,138	\$8,516	\$13,762
North Mountain	\$9	\$0	\$5,066	\$5,075
Otay	\$467	\$1,976	\$4,743	\$7,186
Pala-Pauma	\$108	\$3,521	\$9,163	\$12,792
Pendleton-De Luz	\$108	\$36	\$10,564	\$10,708
Rainbow	\$108	\$13,367	\$5,174	\$18,649
Ramona	\$9	\$16,026	\$0	\$16,035
San Dieguito	\$108	\$9,702	\$6,647	\$16,457
Spring Valley	\$467	\$1,976	\$4,743	\$7,186
Sweetwater	\$467	\$3,916	\$3,916	\$8,299
Valle De Oro	\$467	\$13,762	\$0	\$14,229
Valley Center	\$108	\$7,689	\$7,474	\$15,271

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To determine the TIF for other non-residential commercial and industrial land uses other than general commercial, the following formula shall be used:

- (1) Furniture Stores: 14% of general commercial fee
- (2) General Industrial: 37% of general commercial fee
- (3) Storage, Warehousing, Wineries, Non-residential Agricultural: 14% of general commercial fee
- (4) Offices: 56% of general commercial fee
- (5) Schools and Government/Institutional: 32% of general commercial fee

The non-residential TIF fee shall be computed based on the applicable TIF rate for the primary use of a building or the primary use of each individual storefront for mixed use buildings. Ancillary or support spaces such as management offices in a retail store, storage space in an office building, or offices in an industrial facility will not be separated for computing the TIF. Mixed use buildings with distinct and separate storefronts for multiple businesses will have their TIF computed based on the applicable TIF rate of each distinct and separate storefront. For example, a strip mall with retail stores and office uses such as a bank and a medical office would be charged the general commercial rate for the retail stores and the offices TIF rate for the bank and medical office. Mixed-use development incorporating non-residential and residential uses shall have the residential TIF computed as shown in Section 77.208.1, and the total TIF amount shall be the non-residential TIF amount plus the applicable unit costs for any residential units. Adjustment of fees may be made pursuant to Section 77.213 of this Division.

Credits and reductions for non-residential development.

Direct Improvement Credits for non-residential developments have already been included in the County's overall program for non-residential TIF rates, so direct improvement costs shall not be used as a TIF credit or reduction for non-residential development.

Previously Mitigated Non-Residential Project:

Non-residential development projects which have mitigated cumulative impacts prior to implementation of the TIF may receive credit toward the TIF. Project applicants requesting adjustment of the adopted fee must have completed a cumulative traffic study and already fully mitigated cumulative impacts. Applicants claiming exemption from the fee must demonstrate to the County that all cumulative impacts were clearly identified, through a cumulative traffic study, and fully mitigated through physical improvements or contribution to future road network improvements in an amount equal to the fee. Projects that analyzed cumulative impacts through a cumulative traffic study and mitigated for cumulative impacts may submit previous traffic studies to the County for consideration of

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a TIF credit. Amount of credit granted will be proportional to past mitigation compared to mitigation required by TIF. If the project has changed from the time of original approval so that the proposed use is now more impactful to traffic, applicants must pay a portion of the TIF equal to the cumulative impact increase. If the project mitigated to the full extent of the TIF required mitigation, then full credit up to the project's TIF obligation will be granted.

For approved projects with identified cumulative mitigation measures that have not yet been implemented, the County may, at its option and, upon further environmental review if necessary, require either completion of the originally identified mitigation or payment of the TIF.

Select Industrial:

Some select industrial uses generate traffic but do not construct facilities of a size that will generate a TIF payment to adequately mitigate for the project's traffic impacts. These select industrial uses include but are not limited to: quarry operations, mining operations, borrow pit operations, landfill operations, and concrete and asphalt production facilities including batch plants. For these industrial uses, they shall perform a traffic study to determine the traffic impacts of their project. The traffic study shall specifically convert heavy vehicle trips to Passenger Vehicle Equivalent trips. These industrial projects' TIF payment shall be calculated using the applicable total cost-per-trip from the table below multiplied by the expected number of average daily trips (ADT) their project will generate. Credits and reductions shall be as shown for non-residential developments in Section 77.208.2. Costs in the table below will be updated annually as shown in Section 77.213 Adjustment of Fees.

TIF Payment = Cost/trip X Number of Average Daily Trips

TIF AREA	COST PER TRIP FOR SELECT INDUSTRIAL USES			
	Freeway Ramp	Local	Regional	Total
Alpine	\$12	\$151	\$94	\$257
Bonsall	\$3	\$526	\$81	\$610
Central Mountain	\$0	\$0	\$140	\$140
County Islands	\$12	\$0	\$155	\$167
Crest-Dehesa	\$12	\$84	\$121	\$217
Desert	\$0	\$26	\$140	\$166

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Jamul-Dulzura	\$12	\$182	\$81	\$275
Julian	\$0	\$0	\$140	\$140
Lakeside (includes Pepper Dr- Bostonia)	\$12	\$336	\$19	\$367
Mountain Empire	\$0	\$0	\$140	\$140
North County Metro	\$3	\$143	\$236	\$382
North Mountain	\$0	\$0	\$140	\$140
Otay	\$12	\$55	\$133	\$200
Pala-Pauma	\$3	\$98	\$254	\$355
Pendleton-De Luz	\$3	\$1	\$294	\$298
Rainbow	\$3	\$372	\$143	\$518
Ramona	\$0	\$445	\$0	\$445
San Dieguito	\$3	\$270	\$184	\$457
Spring Valley	\$12	\$55	\$133	\$200
Sweetwater	\$12	\$109	\$111	\$232
Valle De Oro	\$12	\$383	\$0	\$395

Projects in Process in Early 2008

For non-residential projects processing building permits through the County and that have direct impact traffic mitigation on a TIF Facility, the County will allow these projects time to adjust to the TIF ordinance changes. For non-residential projects with direct impact improvements on a TIF Facility and for which fees for an unexpired building plan check were paid on or before February 29, 2008 regardless of whether they obtain their building permit prior to the effective date of this ordinance update, these projects may:

- (1) Calculate their TIF payment and credit for direct impact mitigation against their TIF payment based on the TIF ordinance in effect on January 1, 2008, or;
- (2) Calculate their TIF payment based on the 2008 TIF Ordinance Amendment.

Opt out:

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In lieu of paying the TIF, a developer or group of developers may choose to prepare cumulative traffic studies in accordance with the new CEQA guidelines in effect, which no longer recognize de minimus findings, and construct appropriate mitigation. The cumulative traffic analysis must be approved by the DPW Director or his designee prior to construction of such mitigation. Developers may use finance district funding to satisfy cumulative impact requirements, including TIF requirements.

Section 5. Section 77.209 and 77.210 of the San Diego County Code of Regulatory Ordinances are hereby amended to read as follows:

SEC. 77.209. PAYMENT OF FEES

The fees required pursuant to this Division are intended to mitigate cumulative traffic impacts and shall be paid to the County as a condition of approval of a development permit, including a building permit. For development projects that require both discretionary and building permits, the fees shall be paid no later than time of building permit issuance. If the fee is paid prior to the time of building permit issuance and the amount of the fee increases, then the additional fee amount must be paid before the building permit is issued. If the fee is paid prior to time of building permit issuance and the amount of the fee is reduced, then at the time the building permit is issued, a TIF refund will be provided to the applicant. Once a building permit is issued, the amount of the fee is set and will not be adjusted by subsequent increases or decreases to the TIF rates. In the case of discretionary permits that will not involve a building permit but which will generate additional traffic, payment of the fee shall be recommended as a condition of permitting to the decision-making body that would approve such permit.

SEC. 77.210. DEVELOPER CONSTRUCTION OF TRANSPORTATION FACILITIES

For direct impact mitigation improvement costs on a TIF facility for residential projects, a developer is entitled to compensation and may request a credit for its TIF obligation and a reimbursement for allowable costs greater than the project's TIF obligation. Whenever a developer of a residential or non-residential development project would be required by application of County ordinance or policy, as a condition of approval of a development permit to construct or finance the construction of a portion of a TIF Facility in addition to their direct impact mitigation, the County may impose an additional requirement that the developer install the improvements with supplemental size, length or capacity in order to ensure efficient and timely construction of the transportation facilities network. Similarly, when residential or non-residential development project impacts create an accelerated need for transportation improvements in addition to the project's direct improvements, the County may require accelerated construction of TIF Facilities to assure project conformance with California Environmental Quality Act (CEQA). If such a requirement for supplemental or accelerated facilities is imposed, the developer will be entitled to compensation for eligible construction costs that exceed the total TIF fee required for the developer's project. The developer may request cash reimbursement, or a

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credit against current or future TIF fees, for work to be done or paid for by the developer, and said request shall be submitted in writing to the DPW Director prior to construction of the improvements. The County will enter into either a cash reimbursement agreement as shown in Section 77.210.5 or a credit reimbursement agreement as shown in Section 77.211 with the developer prior to construction of the improvements.

(a) The reimbursement request shall contain a description of the project with a detailed cost estimate that itemizes those allowable costs of the construction attributable to construction of TIF Facilities and excludes any work attributable to non-TIF facilities. Estimated cost of the facility will be based on the County's current-year Department of Public Works Unit Price List. The estimate is preliminary and the amount of reimbursement or credit against fees is subject to final determination by County's designee. Additional information shall be provided to the County by the developer upon request of the County.

(b) The developer is also required to:

- i. Prepare plans and specifications for approval by the County;
- ii. Secure and dedicate any right-of-way required for the transportation facility project;
- iii. Secure all required permits and environmental clearances necessary for the transportation facility project;
- iv. Provide performance bonds for 100 percent of the value of the transportation facility project;
- v. Pay all fees and costs for construction of the transportation facility project.

(c) The County will not be responsible for any of the up-front costs of constructing the transportation facility project. The developer shall advance all necessary funds to construct the transportation facility project. Allowable reimbursable costs include cost of Design, Civil Engineering, Soils Engineering, Landscape Architecture, Surveying, Bonds, Construction Management and Inspection, Permits, Off-Site Environmental Mitigation and associated costs for monitoring, Acquisition of Off-Site Right-of-Way, Utility Engineering/ Coordination, Environmental Consulting, and other project costs as allowed by the DPW Director in addition to construction costs. On-Site Right-of-Way and On-Site Environmental Mitigation will not be reimbursed.

(d) The developer shall make all reasonable efforts to secure at least three qualified and responsible bids for work to be done and shall award the construction contract to the lowest qualified bidder. In the event three or more qualified and responsible bids cannot be obtained, then the developer may still award the construction contract if the DPW Director determines the lowest qualified bid is reasonable. Should the construction

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contract be awarded to a qualified bidder who did not submit the lowest bid for the transportation facility project portion of the contract, the developer will only receive Transportation Impact Fee reimbursement or credit based on the lowest responsible bid for the transportation facility portion of the contract. The developer is allowed to combine the supplemental work with other work being completed for the project in order to obtain the most competitive bids, but costs of the TIF improvement must be segregated within such bids.

(e) All bids must be reviewed by the County prior to contract award. If the lowest bid received exceeds the total estimated cost of the facility, the County may require the developer to obtain a revised bid or, if necessary, submit a redesign of the facility to bring the cost into the estimated range. If the total actual cost of construction is less than the total estimated cost of the facility, then the developer shall be reimbursed for his actual allowable costs.

(f) When all TIF facility improvement work has been completed to the satisfaction of the County, the developer shall submit verification of payments made for the construction of the transportation facility project to the County. The County's designee shall make the final determination relative to expenditures that may be eligible for credit or cash reimbursement.

(g) If the amount of the applicable credit is less than the deferred fee obligation and the TIF Fee is otherwise due and payable, then the developer shall have 30 days to pay the deferred fee. If the deferred fees are not paid within the 30-day period, the County may make a demand against the security and apply the proceeds to the fee obligation.

(h) Prevailing Wage is Applicable. Current applicable prevailing wage is required to be paid for all construction work under either a Cash Reimbursement Agreement or a Credit Reimbursement Agreement, and bid documents for construction of the Improvements shall include a requirement that such prevailing wages be paid.

Section 6. Section 77.210.1 of the San Diego County Code of Regulatory Ordinances is hereby added to read as follows:

SEC.77.210.1 DEVELOPER REIMBURSEMENT AGREEMENT CASH PAYMENTS

For Developer Reimbursement Agreements for cash reimbursement as described in Sec 77.210, the maximum term of any reimbursement agreement shall be twenty- five (25) years or until reimbursements or credits have been issued in full, whichever occurs first. After twenty-five years, the agreement will expire regardless of whether or not necessary TIF revenues have been collected to reimburse all costs. Cash reimbursements for Developer Reimbursement Agreements will be made from available TIF funds as follows:

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(a) Payments shall be made quarterly within 21 days after the end of each calendar quarter from available freeway ramp, local or regional TIF revenue in the applicable TIF Account.

(b) Definitions for Cash Reimbursement Payments.

i. Available TIF Revenue means TIF Fees paid into the applicable local or regional TIF Account during a calendar quarter plus any accumulated TIF Revenue remaining from prior to the quarter.

ii. Developers TIF Reimbursement means payment from the applicable local or regional TIF Account due and payable to Developers pursuant to Reimbursement Agreements for which Reimbursement Amounts have been determined prior to or during the calendar quarter.

iii. County TIF Reimbursement means TIF-eligible project costs during a calendar quarter for TIF Facility projects being accomplished by the County.

iv. Quarterly TIF Payments means Developer TIF Reimbursements and County TIF Reimbursements that become due for a calendar quarter (January 1 to March 31, etc).

(c) Proportionality of Cash Reimbursements to Developers and to the County.

i. If eligible Developers or County TIF Reimbursements are both less than 50% of the Available TIF Revenue, then Developers and County shall each be fully reimbursed.

ii. If both Developers and County have eligible TIF reimbursements that exceed 50% of a quarter's Available TIF Revenue, then 50% of the revenue shall be allocated to Developers and 50% to County.

iii. If either Developers or County have eligible TIF Reimbursements that are less than 50% of the Available TIF Revenue and the other has eligible TIF Reimbursements that exceed 50% of the Quarter's Available TIF Revenue, then the one having less than 50% shall receive full reimbursement and the other shall receive up to the amount due from all remaining Available TIF Revenue regardless of whether it exceeds 50%.

(d) Proportionality of Quarterly Reimbursements of available TIF Revenue among multiple Developers

i. For determining payments, 50% of TIF Revenue available for reimbursements to Developers shall be allocated based on the Initial Amount Owed to each Developer and 50% shall be allocated based on Initial Ratio of Actual Cost of Improvements to TIF Obligation.

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ii. Initial Amount Owed. Allocation to each Developer for whom payment are due each quarter shall be based on the ratio for the Developer's initial Reimbursement Amount to the total of all Developers' initial Reimbursement Amounts for whom payments are due for the quarter. As an example, if there are three developers eligible for TIF Reimbursements from a TIF Account for a particular quarter, and the initial Reimbursement Amounts for Developers A, B, and C are \$5,000,000, \$15,000,000, and \$30,000,000 respectively, then 50% of available TIF revenue to be allocated to Developers shall be proportioned as follows:

Developer A receives \$5 million/\$50 million = 10%

Developer B receives \$15 million/\$50 million = 30%

Developer C receives \$30 million/\$50 million = 60%

iii. Initial Ratio of Actual Cost to Improvements to TIF Obligation . Allocation to each Developer for whom payments are due each quarter shall be based on the ratio of the Developer's Actual Cost of Improvements to that Developer's TIF Obligation. For example, if there are three developers eligible for TIF Reimbursements from a TIF Account for a particular quarter, and the initial ratio of Actual Cost of Improvements to TIF Obligation are as follows:

Developer A Initial Actual Cost of Improvements = \$5 million

TIF Obligation = \$2.5 million

Ratio = \$5 million/\$2.5 million = 2

Developer B Initial Actual Cost of Improvements = \$55 million

TIF Obligation = \$1 million

Ratio = \$15 million/\$1 million = 15

Developer C Initial Actual Cost of Improvements = \$30 million

TIF Obligation = \$10 million

Ratio = \$30 million/\$10 million = 3

Then the remaining 50% of available TIF revenue to be allocated to developers shall be proportioned as follows:

Developer A = $2 / (2 + 15 + 3) = 10\%$

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$$\text{Developer B} = 15 / (2 + 15 + 3) = 75\%$$

$$\text{Developer C} = 3 / (2 + 15 + 3) = 15\%$$

(e) **Adjustments to Unpaid Reimbursement Balance.** Upon each anniversary of the date that the first reimbursement payment became due under a Reimbursement Agreement, the unpaid balance shall be adjusted to reflect the lesser of an annual interest rate of 2% or increases, if any, in the Los Angeles Construction cost Index (CCI), referenced in Section 77.213, but annual interest shall be no less than 1%. The balance adjustment shall commence on the date the Reimbursement Amount became due and end on the date on which the final Incremental Reimbursement Payment is received by the Developer. All reimbursement payments will be provided to the Developer at the address provided in the Reimbursement Agreement, and the address may be changed in writing by the Developer.

(f) **Prevailing Wage is Applicable.** Current applicable prevailing wage is required to be paid for all construction work under the Agreement, and bid documents for construction of the Improvements shall include a requirement that such prevailing wages be paid.

Section 7. Section 77.211 of the San Diego County Code of Regulatory Ordinances is hereby amended to read as follows:

SEC. 77.211. DEVELOPER TIF CONSTRUCTION CREDITS

When a transportation facility, or portion thereof, as described in the TIF Reports, or when an alternative TIF Facility as described in Section 77.208.1 is constructed by the developer through a written agreement with the County as described in Section 77.210, the County shall grant either cash reimbursements as shown in Section 77.210.5 or construction credits. Construction credits will be limited to the total actual allowable costs. When a developer chooses to receive construction credits, the developer must request credit reimbursement from the County to initiate this process, and the terms of construction credit issuance will be described in a written credit reimbursement agreement between the developer and the County. The County will incrementally apply credit which the developer has accrued against the developer's TIF obligations in lieu of collecting the required Transportation Impact Fees as each building permit is issued based upon the fee schedule in effect at the time of the building permit issuance. Construction credits are transferable, at the holder's sole and absolute discretion, but may only be applied within the same TIF Region in which the facilities were constructed. TIF Facility credit will not be given for non-TIF facilities, unless such facilities are approved by County as an alternative to a listed TIF facility.

Section 8. Section 77.212 of the San Diego County Code of Regulatory Ordinances is hereby repealed:

**SEC 77.212.5. REIMBURSEMENT OR PAYMENT OF FEES THROUGH
FORMATION OF ASSESSMENT DISTRICT.**

In addition to any other reimbursement provision of this division, applicants shall have the option of seeking an assessment district under the Statewide Community Infrastructure Program (SCIP) or any similar assessment district program to finance (A) any fees required pursuant to this Division or (B) the construction of any TIF Facilities or portions thereof as required by the County. Through the SCIP, fees are funded by tax-exempt bonds and an applicant can be either reimbursed for fees paid to the County pursuant to this Division or the fees can be paid directly with bond proceeds.

Section 9. Section 77.213, 77.714, and 77.215 of the San Diego County Code of Regulatory Ordinances are hereby amended to read as follows:

SEC. 77.213. ADJUSTMENT OF FEES

The fees established by Section 77.208.1 and Section 77.208.2 hereof have been established based in part on estimated costs to construct TIF Facilities as of September 2004 and updated annually starting in January 2006. The amount of the fee shall be adjusted annually on January 1st of each year. Said adjustment shall be based on the following criteria:

(a) The one-year change (from September to September) in the Los Angeles Construction Cost Index as determined by *Engineering News Record* published by McGraw Hill Publishing Company, or any successor thereof, or an increase of 2.0%, whichever is more. The Board of Supervisors shall review the fee annually as required by Government Code Section 66006 and the adjustments shall not exceed the percentage increase set forth in the Los Angeles Construction Cost Index or an increase of 2.0%, whichever is more. Adjustments to the fees based upon the Construction Cost Index shall be automatic and shall not require further action of the Board of Supervisors.

(b) Changes in the type, size, location or cost of the transportation facilities (if any) to be financed by the fee, changes in land use designations in the County's general plan, and upon other sound engineering, financing and planning information. Adjustments to the fees resulting from the above reviews may be made by resolution amending the fee schedules contained in the TIF Reports and subject to the notice and public meeting requirements of Government Code Section 66016.

The Board of Supervisors may reduce the fee by up to 50% for a specific project if it determines there are public financial benefits that warrant such a reduction, and funding to replace the excused fee amounts is committed as part of such action. The Board of Supervisors may create a zone of "reduced impact fees" to encourage growth within that area by supplementing public funds to replace fees in the same amount that would have been collected as such growth occurred.

SEC. 77.214. USE OF FEES

Fees collected hereunder in satisfaction of the local portion of the total TIF rate, as set forth in Section 77.208.1 and Section 77.208.2 of this Division, shall be segregated into a TIF Facilities fund with an interest-bearing account established for each TIF Area, and the funds therein and interest accruing thereto shall be expended solely for the construction or reimbursement for construction of TIF Facilities within the TIF Area from which the fees comprising the fund were collected. Fees collected hereunder in satisfaction of the regional portion of the total TIF rate, as set forth in Section 77.208.1 and Section 77.208.2 of this Division, shall be segregated into a TIF Facilities fund with an account established for each TIF Region, and the funds therein and interest accruing thereto shall be expended solely for the construction or reimbursement for construction of TIF Facilities within the TIF Region from which the fees comprising the fund were collected. These fees may also be used to reimburse the County for TIF Facilities constructed by the County with funds from other sources. Fees collected hereunder in satisfaction of the freeway/interchange ramps portion of the total TIF rate, as set forth in Section 77.208.1 and Section 77.208.2 of this Division, shall be segregated into a TIF Facilities fund with an account established for each TIF Freeway/Interchange Ramp Region, and the funds therein and interest accruing thereto shall be expended solely for the construction or reimbursement for construction of TIF Interchange Ramp Facilities within the TIF Region from which the fees comprising the fund were collected.

TIF Facilities and funds shall be identified in a Department of Public Works Detailed Work Program, which includes capital improvements and other transportation related expenditures. The TIF facilities within the Detailed Work Program (DWP-TIF) will be presented for Board approval as part of the annual budget approval process. TIF Facilities funds within the DWP-TIF will not be co-mingled with other project funds to ensure that revenues and expenditures are solely and exclusively used for TIF Facility construction. However, these funds may be augmented by other sources, if available, in order to complete TIF Facility projects.

Expenditure for interim improvements that provide incremental progress and measurable - benefits, such as increased capacity or traffic flow, will be allowed. These interim improvements will be consistent with the long-term objectives of full TIF facility construction as determined by the DPW Director. When recommended by the DPW Director, interim improvements will be identified in the DWP- TIF and expenditures from the TIF Facilities funds will be authorized commensurate with DWP-TIF approval. In selecting which specific road improvements shall be recommended, priority shall be given to those roads that serve projects that have paid impact fees.

SEC. 77.215. APPLICABILITY

This Division shall apply to all development permits, including building permits, associated with the generation of traffic through new construction or expansion of an existing facility that add square footage space to a facility, as determined by the County.

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However, examples of building permits to which this Division shall not apply, include but are not limited to:

- (a) Alterations, improvements, or additions to an existing single family dwelling, or rebuilding of a destroyed single family dwelling that does not change its classification of occupancy.
- (b) Apartment to condominium conversions.
- (c) Interim or Temporary Use Permits of three years or less complying with requirements of Section 77.217.
- (d) Permitted Home businesses such as child day care in a residential unit and other business uses allowed within a residence.
- (e) Tenant Improvements to existing non-residential facilities including changes of occupancy or changes in use for an existing facility.
- (f) Minor expansions to existing non-residential facilities. Minor expansions for purposes of this ordinance refer to expansions that increase the total floor space of a facility by no more than 1,000 square feet. Expansions of greater than 1,000 square feet would require payment of TIF for all additional floor space beyond the initial 1,000 square foot expansion. For example, an existing facility that expands from 10,000 square feet to 20,000 square feet would have a TIF obligation based on 9,000 square feet. To prohibit incremental expansions to avoid payment of the TIF, any prior expansions over the preceding five years will be considered part of the current expansion.
- (g) Rebuilding of a destroyed non-residential facility that does not increase floor space greater than 1,000 square feet. Expansions of greater than 1,000 square feet would require payment of TIF for all additional floor space beyond the initial 1,000 square foot expansion.
- (h) Uncovered outdoor areas for tables or seating for a café or restaurant that do not require a building permit.
- (i) Accessory buildings such as non-commercial garages, barns, sea containers, workshops at residences, and non-residential agricultural buildings (agricultural labor dwellings are not exempt).
- (j) Signs, water tanks, propane tanks, other liquid tanks, fuel pumps including gasoline station pumps, wells, or similar structures.

The Director of Public Works is authorized to prepare and maintain a list of all permits types to which the fee will apply.

This Division shall not exempt any new development except as required by state or federal law. In cases where a development is specifically exempt by law from this Division, but said development has transportation impacts required to be mitigated by CEQA, the County can accept TIF payment for mitigation purposes.

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The requirement of this chapter shall not apply to projects for which fees for an unexpired building plan check were paid on or before March 29, 2005 regardless of whether they obtain their building permit prior to the effective date of this ordinance.

SEC. 77.216. APPEAL

Notwithstanding any other provision of this Division, the applicant as defined in this Division shall, as a part of the development permit process, have the right to present evidence to the DPW Director to demonstrate that the fee calculation and/or amount of fee established by the Board of Supervisors is incorrect or inequitable as applied in such case. The applicant shall have the burden of demonstrating any inaccuracy or inequity by serving on the DPW Director engineering studies and cost estimates necessary to support the applicant's contentions.

If the applicant is processing an application for which the TIF fee is a condition of approval, the studies and cost estimates must be served on the DPW Director no later than thirty (30) days prior to approval of the project. The DPW Director shall then make a recommendation regarding fee adjustment to the County hearing body. Upon review of the DPW Director's recommendation, the hearing body shall have the authority to change the amount of fee when it finds the amount so established is incorrect or inequitable in the specific case. The decision of the County's hearing body shall be final, and any additional appeals shall be in accordance with the County subdivision ordinance or zoning ordinance, whichever applies to the application being processed.

If the applicant is seeking a ministerial permit, the appeal, required engineering studies and cost estimates can be served on the DPW Director anytime prior to development permit issuance. The DPW Director shall review the requested fee adjustment and shall have the authority to change the amount of fee when it finds the amount so established is incorrect or inequitable in the specific case. The decision of the DPW Director shall be final.

Section 10. Section 77.217 of the San Diego County Code of Regulatory Ordinances is hereby amended to read as follows:

SEC. 77.217. WAIVER

A development which is designed and intended as a temporary use (3 years or less) and which is conducted in facilities which are, by their nature, short-term interim facilities such as a portable or modular building (including mobile homes, trailers, etc.) may apply to the DPW Director for a TIF fee waiver. The DPW Director shall have the authority to grant such waivers.

SEC. 77.218. REFUND OF FEES

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If a building permit or development permit expires, is cancelled, or is voided and if any fees paid pursuant to this Division have not been expended and no construction has taken place pursuant to such building permit or development permit, the DPW Director shall, upon written request, refund the fee and any interest earned on the fee, less any administrative costs, to the record property owner or his or her legally court appointed representative.

SEC. 77.219. EXPIRATION

This Division shall be of no further force when the County determines that the amount of fees which have been collected reaches an amount equal to the cost of the transportation facilities or reimbursements.

Section 11. Effective Date. This Ordinance shall take effect and be in force sixty (60) days after the date of its passage, and before the expiration of fifteen (15) days after its passage, a summary shall be published once with the names of the members voting for and against the same in S.D. Commerce, a newspaper of general circulation published in the County of San Diego.

(UNCODIFIED. Approved by the Board of Supervisors on April 13, 2005). Peppertree Park Specific Plan (SP 87-007). The Board of Supervisors hereby finds that the peppertree Park Specific Plan development in the Fallbrook Community Planning Area as approved by the Board of Supervisors fully analyzed its cumulative traffic impacts and has fully mitigated those impacts through construction of portions of Peppertree Lane, South Mission Road, and other traffic-related roadway and intersection improvements included in that development's conditions of approval. Accordingly, the Peppertree Park Specific Plan development, including any changes or amendments to that development which do not increase the number of vehicular trips from that identified in the documents supporting that development's approval by the Board of Supervisors, is exempt from payment of any fee or fees imposed by adoption of this Transportation Impact Fees ordinance. Alpine Village Center (S99-047). The Board of Supervisors hereby finds that the Alpine Village Center Site Plan development in the Alpine Community Planning Areas as approved by the Board of Supervisors fully analyzed its cumulative traffic impacts and has fully mitigated those impacts through improvements to portions of Alpine Boulevard, South Grade Road, Marshall way, financial contributions to construction of ramp improvements on Interstate 8 at Tavern Road, and other traffic-related roadway and intersection improvements included in that development's conditions of approval. Accordingly, the Alpine Village Center Site Plan development is exempt from payment of any fee or fees imposed by adoption of this Transportation Impact Fee ordinance.

COUNTY OF SAN DIEGO TRANSPORTATION IMPACT FEE



TIF PROGRAM UPDATE

JANUARY 2008

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EXECUTIVE SUMMARY

BACKGROUND

Working with stakeholder groups, the County of San Diego (County) identified the need to develop a County transportation impact fee (TIF) program to mitigate the cumulative traffic impacts of development throughout the unincorporated areas of the County. The TIF program, approved by the Board of Supervisors in 2005 pursuant to the provisions of Government Code §§ 66000 et seq. (Mitigation Fee Act or the "Act"), funds the improvement and/or construction of identified transportation facilities and allocates the associated costs equitably among future developing properties. The TIF program does not collect funding to address existing roadway deficiencies.

The 2008 TIF Update utilizes the same core methodology and land use assumptions as the 2005 TIF program as outlined in prior reports titled "County of San Diego Transportation Impact Fee Report" dated January 2005, "Fallbrook and Ramona Transportation Impact Fee Report" dated January 2005 and the addendums to the reports dated March 2005 and September 2005 (collectively referred to as "Prior Reports").

PURPOSE

The purpose of this report is to document recommendations for updating the 2005 TIF program pursuant to the provisions of the Act. The current update focused on the following:

- Evaluating the non-residential rates
- Evaluating potential cost savings and/or other revenue sources
- Adding freeway interchanges/ramps and at-grade highway intersections to the TIF program
- Identifying program changes to facilitate easier administration
- Providing additional detail regarding TIF roadway segment limits

The overall objectives of the update included 1) preserving the integrity of the TIF program, and 2) maintaining CEQA compliance regarding cumulative impacts.

RECOMMENDED TIF RATES

The TIF program differentiates between "local" transportation facilities (collectors and minor streets) that benefit primarily the community in which they are located, and "regional" facilities (state routes, prime arterials, major roads, and other regionally significant roadways) that benefit both the community and surrounding area – in this case identified as the North, South or East regions. A different TIF rate is applied to each community based upon growth and related transportation needs. The rates are comprised of a local component and a regional component. The interchange/ramp and highway intersection improvements are identified as "regional" facilities within each of the three regions.

Based on recommended program adjustments, cost reductions and additional revenues, \$826 million of revenue will need to be generated by the TIF program. The recommended update and resulting changes result in residential rates increasing by no more than three and one-half percent (3.5%) measured by cost per single family dwelling unit with the non-residential rates (measured by cost per trip) decreasing by 40% or more.

EXECUTIVE SUMMARY

The update resulted in the following facility costs and recommended TIF rates:

- Local facilities totaling \$370 million were identified, including streets of collector classification and below. This resulted in local TIF rates varying by community plan area (CPA) from \$0 to \$5,940 per single family dwelling unit.
- Regional facilities totaling \$645 million were identified, including state routes, prime arterials, and major roads. This resulted in regional TIF rates per single family home of \$5,942 for the North region, \$3,294 for the South region, and \$2,195 for the East region.
- Regional freeway interchange/ramp facilities costing a total of \$303 million of which \$105 million are related to growth were identified. Ten percent, typical of a local match, (or \$10.5 million) in costs were identified to be included in the TIF program. This resulted in an additional component to the regional TIF rate of \$41 for the North region, \$150 for the South region, and \$3 for the East region per single family home.
- Combining the local and regional components, total TIF rates vary from \$2,199 to \$12,295 per single family home.

As stated in the 2005 Report, further studies, including required environmental review, may result in the identification of different project alternatives with different costs. An update to the TIF program will likely be needed upon completion of the General Plan Update currently in progress. In addition, the TIF rates are indexed to adjust annually each January to keep up with future changes in the costs of construction.

INTRODUCTION

OVERVIEW

The County of San Diego (County) identified the need for additional transportation improvements to address the projected cumulative traffic impacts of future development within the unincorporated area (see **Figure 1**). In 2005, the Board of Supervisors approved a transportation impact fee (TIF) program. The purpose of the TIF program is to fund construction of identified transportation facilities, and allocate the costs equitably among future developing properties.

TRANSPORTATION IMPACT FEES

An impact fee is a commonly used and well-accepted means of mitigating the impacts to public facilities and infrastructure created by future growth. As part of the TIF program process, the transportation infrastructure needs were characterized as either existing deficiencies, direct impacts of future development, or indirect (cumulative) impacts of future development. Existing roadway deficiencies are the responsibility of existing developed land uses and government agencies and can not be financed with impact fees. The proposed TIF program is not intended to mitigate direct impacts which will continue to be the responsibility of individual development projects. The TIF program therefore is designed to address the cumulative impacts associated with new growth.

The rationale supporting development of the County TIF program is future development in the unincorporated area being required by law to mitigate cumulative traffic impacts on the County's road network. Without a TIF, future development would cause a continued decrease in roadway level-of-service with overall network capacity falling behind the needs of future growth. A TIF program is a suitable mechanism for identifying needed transportation facilities to mitigate these cumulative traffic impacts and allocating the associated costs in an equitable manner.

This report is an update to the Prior Reports. The County TIF program assesses the fee on all new development that results in new/added traffic. The primary purpose of the TIF is twofold: (1) to fund the construction of identified facilities needed to reduce, or mitigate, projected cumulative traffic impacts resulting from future development within the County; and (2) to allocate the costs of these facilities proportionally among future developing properties based upon traffic contribution.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

The California Environmental Quality Act (CEQA) requires state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts. To that end, local agencies generally require that a project's potential direct and cumulative impacts and corresponding mitigation measures, be identified as part of the required environmental review process.

CUMULATIVE IMPACTS

Cumulative impacts are those impacts caused collectively by all development within the community. Cumulative impacts can result from individually minor, but collectively significant projects taking place over a period of time (CEQA Guidelines §15355). The CEQA Guidelines recognize that mitigation for cumulative impacts may involve the adoption of ordinances or regulations (CEQA Guidelines §15130).

INTRODUCTION

Recognizing that an individual development project is not wholly responsible for cumulative traffic impacts, each development project is required to contribute to mitigation in proportion to the project's estimated traffic generation. This report proposes the continued use of the TIF to fund improvements to identified transportation facilities in response to the total projected cumulative traffic impacts associated with future development within the County. Transportation facilities and other infrastructure necessary to either address existing deficiencies or mitigate the direct impacts of a given development project are not within the scope of the TIF.

ENVIRONMENTAL STUDIES & REVIEW

The facilities identified in this report are intended to provide increased road capacity to mitigate the cumulative traffic impacts of future development. No facilities will actually be constructed until all necessary environmental reviews have been conducted. Further studies, including environmental review, may show superior alternative projects that also satisfy the increased capacity need.

EXEMPTION FROM CEQA REQUIREMENTS

The fees collected through the TIF will be used for capital projects for transportation infrastructure projects necessary to maintain service within the unincorporated County. The County has determined that the act of adopting the proposed County TIF program and establishing the proposed TIF rates is statutorily exempt from the requirements of CEQA under §15273(a)(4) of the CEQA Guidelines.

STATUTORY FRAMEWORK

Development and implementation of impact fees must conform to the statutory requirements of California Government Code §§66000 et seq. (commonly referred to as the "Mitigation Fee Act"). Prior to establishing, increasing or imposing an impact fee, the Mitigation Fee Act requires the local agency to make the following findings:

- Identify the purpose of the fee (§66001(a) (1)).
- Identify the use for the fee and the facilities to be built (§66001(a) (2)).
- Determine a reasonable relationship between the fee's use and the type of development project on which the fee is imposed (§66001(a) (3)).
- Determine a reasonable relationship between the need for the public facility and the type of development project (§66001(a) (4)).
- Determine a reasonable relationship between the amount of the fee and the cost of the facility attributable to development (§66001(b)).

For purposes of the County TIF program, a statement of requisite findings is presented in the "Program Implementation" section of this report.

FEE DEVELOPMENT PROCESS

The remainder of this report summarizes the basis for the TIF program and the recommended changes resulting in updated fee rates:

- Development Forecast
- Facilities and Costs
- Fee Methodology
- Funding Requirements
- Proposed Fee Schedule
- Program Implementation

TIF ANALYSIS

This report documents recommendation for updating to the 2005 TIF program. Unless otherwise outlined in the report, growth and facility needs are the same as identified in the Prior Reports. This section reiterates the trip growth forecast and required roadway facilities to suitably address cumulative traffic impacts. The 2008 TIF Update report also describes the changes to the program including:

- Identified program cost reductions due to changing roadway standards.
- Costed Direct Project mitigations by non-residential projects.
- Identified additional revenue available to the County to offset the costs to non-residential projects.
- Clarified TIF roadway segment limits.
- Revised TIF rate tables.

GROWTH FORECAST

Analysis of land use changes between 2004 and build-out, as outlined in the Prior Reports, provided the basis for determining both the amount of expected future development and the types of transportation improvements needed to address cumulative traffic impacts consistent with the SANDAG Transportation Model. For fee calculation purposes, uniform trip generation rates per land use category were applied to the various land uses to estimate growth related trips and equitably allocate the fee between the various land uses. Based on typical trip generation rates, shown in **Table 1**, and the identified forecast growth, both identified in the Prior Reports, the trips attributable to future development are shown in **Table 2**.

TABLE 1
TRIP GENERATION RATES

LAND USE	Trip Rate (1)
Single Family Residential	12 trips/unit
Multi-Family Residential	5 – 8 trips/unit
Commercial/Services	360 trips/acre
Industrial	150 trips/acre
Office	300 trips/acre
Parks	5 trips/acre
Roads & Freeways	0 trips/acre
Schools	50 trips/acre

(1) Based on adopted County TIF program.

TABLE 2
FORECAST TRIPS ATTRIBUTABLE TO FUTURE DEVELOPMENT

Community Planning Area	Forecast Trips by TIF Region (1)		
	North	South	East
Alpine		76,176	
Bonsall	33,852		
Central Mountain			7,992
County Islands		4,884	
Crest-Dehesa		6,468	
Desert			322,860
Fallbrook (2)(3)	166,140		
Jamul-Dulzura		74,676	
Julian			11,220
Lakeside		153,492	
Mountain Empire			112,092
North County Metro	184,992		
North Mountain			18,480
Otay		232,752	
Pala-Pauma	48,504		
Pendleton-De Luz	5,100		
Rainbow	27,912		
Ramona(2)			138,144
San Dieguito	117,120		
Spring Valley		50,892	
Sweetwater		15,072	
Valle De Oro		21,348	
Valley Center	130,344		
TOTAL FUTURE TRIPS	713,964	635,760	610,788

(1) Forecast trips based on build-out projections per the 2005 TIF program.

(2) Fallbrook local rate based on 160,992 trips for 2004 to 2030 and Ramona local rate based on 118,824 trips for 2004 to 2030.

(3) An additional 5,076 trips is reflected for North Region (Fallbrook) based on the September 2005 Addendum (423 EDUs x 12 trips/EDU).

Trip generation rates are commonly used to apportion the benefits associated with transportation infrastructure improvements. Note that the Prior Reports made reference to Equivalent Dwelling Units (1 equivalent dwelling unit equaling 12 trips), but for simplicity this report references trips instead.

FACILITIES AND COSTS

The SANDAG Regional Transportation Model was utilized to analyze base year (Year 2000) and projected build-out development conditions on the roadway network throughout the unincorporated area of the County. The TIF modeling assumptions for the road network and projected land uses are summarized in the Prior Reports.

A list of County TIF program facilities (deficient Base Year road segments) is contained in **Appendix A**. The facilities identified in this report are intended to address future deficiencies in road capacity caused by the cumulative traffic impacts of future development. Further studies, including required environmental reviews, may result in the identification of other alternatives for dealing with cumulative traffic impacts. The County TIF program may be periodically reviewed and/or amended to permit funding the construction of these alternatives. The Appendix identifies the roadway segments and provides additional detail as to TIF roadway segment limits.

FREEWAY INTERCHANGES/RAMPS & AT-GRADE HIGHWAY INTERSECTIONS

As part of this update, the County identified specific Freeway ramp interchanges and at-grade highway intersections to be funded in part by the TIF program. These facilities were not included in the Prior Reports. Based on currently available traffic data, a number of freeway ramp interchanges and at-grade highway intersections were identified as necessary to accommodate growth. **Table 3** identifies the facility location, the percent of total 2030 traffic related to growth, and the resulting amount to be funded via the TIF program. Addition of these improvements will enable projects to meet its obligations regarding cumulative impacts via the TIF program. It should be noted that the overall cost is estimated on a per Region basis, recognizing that some of the costs will likely exceed the estimate while others may be lower than shown in the table.

Only 10% of future growth's costs for freeway interchanges/ramps are recommended to be included in the program. This percentage is representative of the typical local match required when competing for funds for these State highway improvements. Addition of these improvements will enable projects to meet their obligations regarding cumulative impacts via the TIF program. It should be noted that the overall cost is estimated on a per Region basis, recognizing that some of the costs will likely exceed the estimate while others may be lower than shown in the table.

TABLE 3
INTERCHANGES AND COSTS

Location	County Growth (%)	Proportional Cost	Region
I-8 EB/Lake Jennings Park Rd	45%	\$516,000	South
I-8 WB/Lake Jenning Park Rd	49%	561,000	South
I-8 EB/Dunbar Ln	54%	618,000	South
I-8 WB/Dunbar Ln	57%	654,000	South
I-8 EB/Tavern Rd	40%	459,000	South
I-8 WB/Tavern Rd	58%	667,000	South
I-8 EB/W. Willows Rd	60%	686,000	South

TIF ANALYSIS

Location	County Growth (%)	Proportional Cost	Region
I-8 WB/W. Willows Rd	65%	751,000	South
I-8 EB/Greenfield Dr. (El Cajon)	1%	7,000	South
I-8 WB/Greenfield Dr. (El Cajon)	3%	29,000	South
I-15 NB/E. Mission Rd	36%	418,000	North
I-15 SB/E. Mission Rd	36%	411,000	North
I-15 NB/Gopher Canyon Rd	39%	451,000	North
I-15 SB/Gopher Canyon Rd	6%	65,000	North
I-15 NB/Deer Springs Rd	54%	627,000	North
I-15 SB/Deer Springs Rd	41%	470,000	North
SR-67 NB/Bradley Ave	11%	130,000	South
SR-67 SB/Bradley Ave	14%	164,000	South
SR-67 NB/Winter Gardens Blvd	12%	135,000	South
SR-67 SB Winter Gardens Blvd	25%	291,000	South
SR-67 NB/Riverford Rd	31%	352,000	South
SR-67 SB/Riverford Rd	43%	499,000	South
SR-67 NB/Mapleview St	33%	378,000	South
SR-67 SB/Mapleview St	34%	396,000	South
SR-67/Archie Moore Rd (Ramona) (2)	31%	40,000	East
SR-67/Montecito Rd (Ramona) (2)	39%	51,000	East
SR-67/SR-78 (Ramona) (2)	38%	49,000	East
SR-94 EB/Sweetwater Springs Blvd	26%	299,000	South
SR-94 WB/Sweetwater Springs Blvd	29%	335,000	South
TOTAL COST OF GROWTH		\$10,509,000	

(1) Cost based on \$11,500,000 per interchange intersection except as outlined in note (2) below.

(2) Costs for SR-67 at Archie Moore, Montecito, SR 78 in Ramona based on \$130,000 per at-grade highway intersection.

(3) South Region totals \$7,927,000, North Region total \$2,442,000 and the East Region totals \$140,000.

REGIONAL AND LOCAL COSTS

Table 4 outlines the planning level costs associated with the TIF program based on the cost assumptions outlined in the Prior Reports and then increased by ENR-CCI. These planning-level costs were based in part on estimates made in SANDAG's Regional Transportation Plan and include all planning, design, right-of-way, environmental, construction and program administration (2%) costs. Based on available information, these planning level costs are sufficient to include intersections along the facilities and at the endpoints of the TIF facilities, including signalization.

TABLE 4
COST OF FACILITIES ATTRIBUTABLE TO FUTURE DEVELOPMENT

Community Planning Area	Estimated Cost (in millions)				
	Regional (1)			Local	TOTAL
	State Route	Prime Arterial	Major Road(2)	Collector & Below	
Alpine		\$0.63	\$1.13	\$11.50	\$13.26
Bonsall	77.61		30.67	17.81	126.10
Central Mountain	0.89				0.89
County Islands					0
Crest-Dehesa			24.82	.54	25.36
Desert				8.31	8.31
Fallbrook	27.82		67.91	81.69	177.42
Jamul-Dulzura	90.10			13.56	103.66
Julian					
Lakeside		.87	1.78	51.51	54.16
Mountain Empire	24.62				24.62
North County Metro	35.64	18.96		26.54	81.14
North Mountain	22.74				22.74
Otay		56.64		12.79	69.43
Pala-Pauma	20.97			4.76	25.73
Pendleton-De Luz		5.95		0	5.95
Rainbow				10.38	10.38
Ramona (3)	30.79		33.65	58.80	123.23
San Dieguito		7.28	.28	31.64	39.20
Spring Valley		.01		2.81	2.82
Sweetwater				1.64	1.64
Valle De Oro	.03			8.20	8.24
Valley Center		29.52	1.07	27.95	58.55
Misc. North Region	32.83				32.83
TOTAL COSTS	\$364.04	\$119.86	\$161.32	\$370.44	\$1015.65

(1) Refer to Prior Reports regarding Regional facility costs reduction of 7% to account for future traffic volumes not attributable to development within the unincorporated area.

(2) Major and other regionally significant roadways.

The table reflects a reduction to the costs for the East region based upon review of the SANDAG Transportation Model output and roadway needs resulting in a reduction of the estimated cost of Regional lane-miles to \$0.89 million for the Central Mountain CPA.

TIF ANALYSIS

Of the costs identified in the table, it is estimated that approximately \$75.0 million is associated with the direct impacts of non-residential properties within the County. As part of the 2008 TIF update, it is recommended that the \$75.0 million be credited to the non-residential properties in lieu of those projects requesting reimbursements for direct impact improvements on TIF roadways. This credit is reflected in the non-residential Regional rates.

Based on the continuing efforts to update the County's General Plan, including the Circulation Element, cost savings related to anticipated roadway design standards that eliminate parking on certain roadways have also been quantified. Note that such a change would not affect the capacity of the roadway. The savings is estimated to be \$5.05 million in the Regional costs and is reflected in the rates.

FEE METHODOLOGY

The TIF program apportions the costs of the proposed transportation improvements equitably to future development projects based on typical trip generation rates. The program recognizes certain "local" transportation facilities (collectors and minor streets) benefit primarily the community in which they are located, while "regional" facilities (state routes, prime arterials, major roads and interchanges/ramps) benefit both the community and surrounding areas. Therefore, a portion of the total TIF fee was calculated based on the cost of local facilities and apportioned to development only within the boundary of each community (**Figure 1**), while the remainder of the fee was calculated based on the need for regional facilities and apportioned to development within three TIF Regions covering the unincorporated areas of the County. Those three regions are shown in **Figure 2** and are labeled North, South and East.

LOCAL FACILITIES

Each community's TIF rate includes a Local TIF Rate and a Regional TIF Rate. The purpose of the Local TIF Rate is to apportion eligible costs of local TIF facilities (i.e., collectors and other minor roads) to future growth within the community. Total estimated local facility costs, projected local growth within the community, and calculated Local TIF Rates are summarized in **Table 5**.

TABLE 5
LOCAL FACILITY COSTS & TIF RATES

Community Plan Area	Local Cost ⁽¹⁾ (\$ millions)	Local Growth (trips)	Local TIF Rate (per trip) ⁽²⁾⁽³⁾
Alpine	\$11.50	76,176	\$151
Bonsall	17.81	33,852	526
Central Mountain	0	7,992	0
County Islands	0	4,884	0
Crest-Dehesa	0.54	6,468	84
Desert	8.31	322,860	26
Fallbrook	81.69	160,992	507
Jamul-Dulzura	13.56	74,676	182
Julian	0	11,220	0
Lakeside (including Pepper Dr-Bostonia)	51.51	153,492	336

Community Plan Area	Local Cost ⁽¹⁾ (\$ millions)	Local Growth (trips)	Local TIF Rate (per trip) ⁽²⁾⁽³⁾
Mountain Empire	0	112,092	0
North County Metro	26.54	184,992	143
North Mountain	0	18,480	0
Otay	12.79	232,752	55
Pala-Pauma	4.76	48,504	98
Pendleton-De Luz ⁽⁴⁾	0	5,100	1
Rainbow	10.38	27,912	372
Ramona	58.80	118,824	495
San Dieguito	31.64	117,120	270
Spring Valley	2.81	50,892	55
Sweetwater	1.64	15,072	109
Valle De Oro	8.20	21,348	384
Valley Center	27.95	130,344	214

(1) Local facility costs eligible for TIF funding.

(2) TIF rates may vary from calculated table values due to rounding and display of significant digits.

(3) Cost reductions are not reflected.

(4) Pendleton-De Luz local cost equals 427 x \$7 per the 2005 TIF report.

REGIONAL FACILITIES

The purpose of the Regional TIF Rate is to apportion eligible costs of regional TIF facilities (i.e., freeway interchanges/ramps, state routes, prime arterials, major roads, and other regionally significant roadways) to future growth within the applicable region. Total estimated regional facility costs, projected regional growth, and calculated Regional TIF Rates are summarized in **Tables 6 and 7**. Table 6 displays the portion of the Regional TIF rate apportioned to state routes, primes, and majors and Table 7 displays the portion of the Regional TIF rate apportioned to Freeway interchanges/ramps.

TABLE 6
REGIONAL FACILITY COSTS & TIF RATES (SRs/PRIME ARTERIALS/MAJOR ROADS)

TIF Region ⁽¹⁾	Regional Cost ⁽²⁾ (\$ millions)	Regional Growth (trips)	Regional TIF Rate (\$/trip) ⁽³⁾
North	\$356.27	713,964	\$499
South	\$176.14	635,760	\$277
East	\$112.40	610,788	\$184

(1) Refer to **Figure 2** for location of TIF Regions.

(2) Portion of Regional facility costs related to SRs/prime arterials and major roads identified for TIF funding.

(3) Cost reduction for lane-miles in East region is reflected. Other cost reductions are not reflected.

TIF ANALYSIS

TABLE 7
INTERCHANGE/RAMP COSTS & TIF RATES - REGIONAL

TIF Region ⁽¹⁾	Regional Cost ⁽²⁾	Regional Growth (trips)	Regional TIF Rate (\$/trip)
North	\$2,442,000	713,964	\$ 3.42
South	\$7,927,000	635,760	\$12.47
East	\$ 140,000	610,788	\$ 0.23

(1) Refer to **Figure 2** for location of TIF Regions.

(2) Interchange/ramp facility costs identified for TIF funding – Includes 10% Local Match.

FUNDING REQUIREMENTS

In the typical County CIP road improvement project that is constructed for the purpose of addressing existing capacity deficiencies, excess capacity results due to the impracticality of constructing only partial lanes. It is estimated that the value of this capacity for future development averages \$5.5 million annually. This value functions as a revenue to be included in the TIF program and as a policy decision, will be allocated to offset non-residential fee rates.

The overall financial requirements of the updated TIF program are identified in **Table 8**.

TABLE 8
TIF PROGRAM FINANCIAL REQUIREMENTS

Program Description	Cost (in millions)	Applicable Project Type
2008 Program	\$1,053	Residential & Non-residential in each Region
Adjusted East Region lane-miles	-38.0	Residential & Non-residential in East Region
Freeway Included interchanges/ramps (10% local match)	10.5	Non-residential in each Region
Excluded non-residential direct impact costs	-74.5	Non-residential in each Region
Included cost savings for modified GP2020 roadway design standards	-5.05	Residential & Non-residential in each Region
Apply available CIP revenues	-121	Non-residential in each Region
TOTAL	\$826	TIF Funding Requirements

Based on allocating the costs for local and regional facilities and reflecting the recommended program reductions, the cost per single family home and the cost per non-residential trip are identified in **Table 9** and **Table 10**, respectively.

TABLE 9
COST OF FACILITIES-ATTRIBUTABLE TO FUTURE DEVELOPMENT - RESIDENTIAL

Community Planning Area By Region	Cost Per Single Family Home				Total
	Local	Regional	Interchange	Program Reduction ⁽¹⁾	
South Region					
Alpine	\$1,812	\$3,322	\$150	(27)	\$5,257
County Islands	0	3,322	150	(27)	3,445
Crest-Dehesa	1,008	3,322	150	(27)	4,453
Jamul-Dulzura	2,184	3,322	150	(27)	5,629
Lakeside	4,032	3,322	150	(27)	7,477
Otay	660	3,322	150	(27)	4,105
Spring Valley	660	3,322	150	(27)	4,105
Sweetwater	1,308	3,322	150	(27)	4,753

TIF ANALYSIS

Community Planning Area By Region	Cost Per Single Family Home				Total
	Local	Regional	Interchange	Program Reduction ⁽¹⁾	
Valle de Oro	4,608	3,322	150	(27)	8,053
North Region					
Bonsall	6,312	5,990	41	(48)	12,295
Fallbrook	6,084	5,990	41	(48)	12,067
North County Metro	1,716	5,990	41	(48)	7,699
Pala-Pauma	1,176	5,990	41	(48)	7,159
Pendleton-De Luz	8	5,990	41	(48)	5,991
Rainbow	4,464	5,990	41	(48)	10,447
San Dieguito	3,240	5,990	41	(48)	9,223
Valley Center	2,568	5,990	41	(48)	8,551
East Region					
Central Mountain	0	2,214	3	(18)	2,199
Desert	312	2,214	3	(18)	2,511
Julian	0	2,214	3	(18)	2,199
Mountain Empire	0	2,214	3	(18)	2,199
North Mountain	0	2,214	3	(18)	2,199
Ramona	5,940	2,214	3	(18)	8,139

(1) Reflects program reductions for anticipated changes in roadway design standards..

TABLE 10
COST OF FACILITIES ATTRIBUTABLE TO FUTURE DEVELOPMENT – NON RESIDENTIAL

Community Planning Area By Region	Cost Per Trip				Total
	Local	Regional	Interchange	Program Reduction	
South Region					
Alpine	151	277	12	(184)	256
County Islands	0	277	12	(122)	167
Crest-Dehesa	84	277	12	(157)	216
Jamul-Dulzura	182	277	12	(196)	275
Lakeside	336	277	12	(259)	366
Otay	55	277	12	(145)	199
Spring Valley	55	277	12	(145)	199
Sweetwater	109	277	12	(167)	231
Valle de Oro	384	277	12	(278)	395

Community Planning Area By Region	Cost Per Trip				Total
	Local	Regional	Interchange	Program Reduction	
North Region					
Bonsall	526	499	3	(418)	610
Fallbrook	507	499	3	(410)	599
North County Metro	143	499	3	(263)	382
Pala-Pauma	98	499	3	(245)	355
Pendleton-De Luz	.66	499	3	(205)	298
Rainbow	372	499	3	(356)	518
San Dieguito	270	499	3	(314)	458
Valley Center	214	499	3	(291)	425
East Region					
Central Mountain	0	184	.23	(43)	141
Desert	26	184	.23	(44)	166
Julian	0	184	.23	(43)	141
Mountain Empire	0	184	.23	(43)	141
North Mountain	0	184	.23	(43)	141
Ramona	495	184	.23	(234)	445

(1) Reflects program reductions for anticipated changes in roadway design standards, cost reductions for Direct Impacts and County CIIP revenues of \$121 million.

As already mentioned, the TIF program differentiates between local and regional facilities. The following facility costs and residential TIF rates were determined:

- Local facilities costing a total of \$370 million were identified, including streets of collector classification and below. This resulted in local TIF rates varying by community from \$0 to \$5,940 per single family home (see Table 11).
- Regional facilities costing a total of \$645 million were identified, including state routes, prime arterials, and major roads. This resulted in a component of the regional residential TIF rates of \$5,942 for the North region, \$3,294 for the South region, and \$2,195 for the East region (see Table 11) per single family home.
- Regional facilities costing a total of \$10.5 million were identified, including interchange intersections and ramps. This resulted in a component of the regional residential TIF rates of \$41 for the North region, \$150 for the South region, and \$3 for the East region (see Table 11) per single family home.
- Combining the local and regional components, total residential TIF rates vary from \$2,198 to \$12,295 in Bonsall (see Table 8).

TIF ANALYSIS

PROPOSED FEE SCHEDULE

The TIF applicable to a given project will be based on estimated vehicular trip generation rates generally pursuant to Table 1. For residential projects, the fee is based on number and type of dwelling units. For non-residential projects, the fee is reflected as a cost per square foot. The current TIF program bases the project's TIF obligation on an average cost per trip multiplied by the number of trips. This update proposes to modify that approach by assigning a single trip generation rate per land use category (with several exceptions) and converting that to a cost per square foot basis for non-residential projects. There are two advantages to making this change. First, the approach more closely reflects the trip generation assumption in the 2005 TIF program and the SANDAG Transportation Model, and secondly, it should significantly simplify fee calculations for project applicants.

Table 11 summarizes the proposed total TIF rates for each community within the County based on the local and regional TIF rates identified in Tables 5, 6 and 7. The rates reflect the aforementioned program reductions and county funding.

TABLE 11
PROPOSED TOTAL TIF RATES PER SINGLE FAMILY DWELLING (SFD)

Community Plan Area	Local TIF Rate	Regional TIF Rate	Regional Interchange /Ramp TIF Rate	Total TIF Rate ⁽¹⁾
Alpine	\$1,812	\$3,294	\$150	\$5,256
Bonsall	6,312	5,942	41	12,295
Central Mountain	0	2,195	3	2,198
County Islands	0	3,294	150	3,444
Crest-Dehesa	1,008	3,294	150	4,452
Desert	312	2,196	3	2,511
Fallbrook	6,084	5,942	41	12,067
Jamul-Dulzura	2,184	3,294	150	5,628
Julian	0	2,195	3	2,198
Lakeside	4,032	3,294	150	7,476
Mountain Empire	0	2,195	3	2,198
North County Metro	1,716	5,942	41	7,699
North Mountain	0	2,195	3	2,198
Otay	660	3,294	150	4,104
Pala-Pauma	1,176	5,942	41	7,159
Pendleton-De Luz	8	5,942	41	5,991
Rainbow	4,464	5,942	41	10,447
Ramona	5,940	2,196	3	8,139
San Dieguito	3,240	5,942	41	9,223
Spring Valley	660	3,294	150	4,104

Community Plan Area	Local TIF Rate	Regional TIF Rate	Regional Interchange /Ramp TIF Rate	Total TIF Rate ⁽¹⁾
Sweetwater	1,308	3,294	150	4,752
Valle De Oro	4,608	3,294	150	8,052
Valley Center	2,568	5,942	41	8,551

(1) The rate for a multi-family home is 67% of the single-family rate, senior housing is 33% of the single-family rate and congregate care is 20% of the single-family rate based on relative trip generation rates.

The General Commercial rates are summarized in **Table 12** for each community within the County based on the local and regional TIF rates identified in Tables 5, 6 and 7. The rates reflect the aforementioned program reductions and County funding.

TABLE 12
PROPOSED TOTAL GENERAL COMMERCIAL TIF RATE PER 1,000 SF

Community Plan Area	Local TIF Rate	Regional TIF Rate	Regional Interchange /Ramp TIF Rate	Total TIF Rate ⁽¹⁾
Alpine	5,426	3,342	467	9,235
Bonsall	18,901	2,946	108	21,955
Central Mountain	0	5,066	9	5,075
County Islands	0	5,534	467	6,001
Crest-Dehesa	3,018	4,312	467	7,797
Desert	934	5,067	9	6,010
Fallbrook	18,217	3,234	108	21,559
Jamul-Dulzura	6,539	2,874	467	9,880
Julian	0	5,066	9	5,075
Lakeside	12,073	647	467	13,187
Mountain Empire	0	5,066	9	5,075
North County Metro	5,138	8,516	108	13,762
North Mountain	0	5,066	9	5,075
Otay	1,976	4,743	467	7,186
Pala-Pauma	3,521	9,163	108	12,792
Pendleton-De Luz	36	10,564	108	10,708
Rainbow	13,367	5,174	108	18,649
Ramona	16,026	0	9	16,035
San Dieguito	9,702	6,647	108	16,457
Spring Valley	1,976	4,743	467	7,186
Sweetwater	3,916	3,916	467	8,299

TIF ANALYSIS

Community Plan Area	Local TIF Rate	Regional TIF Rate	Regional Interchange /Ramp TIF Rate	Total TIF Rate ⁽¹⁾
Valle De Oro	13,762	0	467	14,229
Valley Center	7,689	7,474	108	15,271

(1) The rate for Furniture is .143 multiplied by General Commercial Rate, General Industrial is .369 multiplied by General Commercial Rate, Warehouse/Storage is .137 multiplied by the General Commercial Rate, Office is .564 multiplied by the General Commercial Rate, and School is .319 multiplied by the General Commercial Rate.

The TIF is assessed on all new development associated with the generation of traffic. For purposes of assigning the fee, the following land use category explanations are provided:

Furniture Store means a commercial facility for the sale of moveable articles such as tables, chairs, sofas, desks, or cabinets required for use or ornament in a residence, office, or the like.

General Commercial includes but is not limited to shopping centers, strip development and commercial clusters, retail sales facilities including grocery stores and department stores, convenience stores, auto sales and repair facilities, hardware and lumber stores, gardening and nursery stores, eating and drinking establishments, and any other retail uses other than furniture stores that are not specifically included in other TIF category definitions.

General Industrial means facilities for manufacturing, processing, assembling, distribution services, and for construction equipment sales and repair and any industrial use other than warehouse and storage that are not specifically included in other Transportation Impact Fee categories.

Office means facilities for administrative or professional services and includes but is not limited to hospitals, medical clinics, insurance sales, banks, savings and loans, and real estate services.

Schools mean institutions for instruction in a particular skill or field.

Warehousing and Storage means all types of warehouses or facilities with the primary purpose being to provide storage space. -

Winery means an establishment for producing wine and may include wine tasting rooms.

OTHER FUNDING SOURCES

The TIF is intended to fund identified transportation facilities, or portions thereof, needed to mitigate the cumulative traffic impacts of future development. Other revenue sources will be required to fund existing network deficiencies or portions of capacity not attributable to new growth. Sources of additional revenue may include funding of ramp and interchange improvements by the state. With the passage and extension of TransNet, additional Gas Tax revenues will be freed up from maintenance activities that can be applied to the County's CIP program.

The TIF funds will be used for the specific improvements identified in this report to accommodate future growth, and non-TIF funds will be used to address existing deficiencies. Gas Tax and TranNet revenues will be the most reliable source of non-TIF funds. However, having TIF funds available can help the County leverage other funding sources, including state and federal grants. Grant programs often require a high level of difficult-to-find matching funds. Having a TIF

program demonstrates a committed plan of action for road network improvements and TIF revenue can provide a ready source of matching funds. Both of these factors can provide a competitive edge when vying for grants.

PROGRAM IMPLEMENTATION

STATEMENT OF FINDINGS

The following information is provided to assist the County with satisfaction of the requisite statutory findings contained in §66001 of the Mitigation Fee Act:

Purpose of the Fee. The purpose of the TIF is to fund program implementation and construction of identified transportation facilities in response to the anticipated cumulative traffic impacts associated with future development within the unincorporated area.

Use of the Fee. The TIF will be used to fund program implementation and construction of certain local transportation facilities within each community in the County. The TIF will also be used to fund program implementation and construction of certain regional facilities within the applicable TIF region.

Reasonable Use (Benefit). Future development will have a significant, not easily mitigated, cumulative traffic impact on each community's local and regional road network. The TIF will be used to fund additional transportation infrastructure to accommodate future development and facilitate better traffic circulation within the individual communities in the County, and the applicable region, and thus mitigate this cumulative impact.

Reasonable Need (Burden). Future development will have a significant, and not easily mitigated, cumulative traffic impact on each community's road network. The TIF will be used to fund additional transportation infrastructure alleviating some of the impacts associated with future development within the unincorporated area.

Reasonable Apportionment. The TIF facilities, or portions thereof, were identified based on an analysis of existing and future deficiencies and roadway requirements. The costs of TIF facilities will be apportioned to future development based on relative vehicular trip generation rates assigned to land use category and converted to a rate per dwelling unit or rate per square foot as identified in this report.

GENERAL PLAN UPDATE

It should be noted that the County is currently in the process of performing a General Plan update. The County has reviewed the TIF facilities identified in this report and concluded that they do not conflict with current GP update efforts. Upon adoption of the updated General Plan (or any other significant modification to the existing General Plan), it is recommended that the development forecast, traffic modeling, and funding requirements to address future roadway demands for the TIF program be reviewed and updated accordingly.

CAPITAL IMPROVEMENT PROGRAM

The following facility information is provided to assist the County with satisfaction of the Capital Improvement Program (CIP) requirements set forth in §66002 of the Mitigation Fee Act:

TIF ANALYSIS

Approximate location. The approximate location of each identified transportation facility is conceptually depicted and described in the Prior Reports and are incorporated herein by reference. The **Appendix** provides additional detail regarding the limits of the TIF roadway segments.

Size. The size and/or characteristics of each identified transportation facility are provided in the Prior Reports and are incorporated herein by reference.

Time of Availability. The identified transportation facilities will be constructed based on availability of funding, and when necessary to address the cumulative traffic impacts of future development in the County.

Estimated Cost. Additional detail for the estimated cost of the identified transportation facilities (in September 2004 dollars) is provided in the Prior Reports.

INTER-AGENCY COORDINATION

Collection of TIF funds and construction of identified TIF facilities may involve varying degrees of inter-agency coordination. For example, Caltrans has jurisdiction over state routes, portions of which may be improved as part of the County TIF program. The financial aspects and timing of construction activities for such projects will certainly require considerable attention and coordination.

The TransNet sales tax extension (Proposition A), approved by voters in 2004, requires local jurisdictions to collect a fee for each new residential dwelling unit to fund the Regional Arterial System (as defined in SANDAG's most recent and adopted Regional Transportation Plan). Since State Routes and other facilities in the Regional Transportation Plan are included in the improvements for which the County TIF is collected, the County has determined that the obligation to collect the SANDAG fee is already met. In other words, there will be no additional fees collected beyond the County TIF amount in order to satisfy the TransNet requirement.

APPENDIX A – BASE YEAR DEFICIENCIES OF STATE AND COUNTY

Appendix A
Base Year Deficiencies
State Facilities

CPA	Name	FROM	TO	Lanes	Additional Lane Miles Required
Bonsall	MISSION	OLIVE HILL	CPA BOUNDARY	2	6.77
Bonsall	PALA	.045 EAST OF MISSION / PALA	.61 EAST OF MISSION / PALA	2	0.56
Fallbrook	PALA	OLD 395	115 - NB RAMP	2	0.30
Jamul-Dulzura	CAMPO	CPA BOUNDARY / COUGAR CANYON ROAD	STONEY OAK ROAD	2	4.39
Jamul-Dulzura	SR-94	STONEY OAK ROAD	HONEY SPRING	2	0.83
Lakeside	SR-67	.46 MILES SOUTH OF SCRIPPS POWAY PARKWAY	VIGILANTE ROAD	2	7.35
Lakeside	SR-67	SCRIPPS POWAY PARKWAY	.46 MILES SOUTH OF SCRIPPS POWAY PARKWAY	3	0.46
Ramona	MAIN	10 TH	8TH	4	0.22
Ramona	SR-67	MUSSEY GRADE ROAD	MONTECITO	2	5.40
Ramona	JULIAN	CPA BOUNDARY	ARCHIE MOORE ROAD	2	0.89
Spring Valley	SR-54 EB	SOUTH BAY PARKWAY (BEGINNING OF RAMP)	SR-54 EB (END OF RAMP)	4	0.31
Sweetwater	SOUTH BAY PARKWAY	END OF SR-54 / BEGINNING OF SOUTH BAY PARKWAY	SOUTH BAY PARKWAY (BEGINNING OF RAMP)	2	1.70
Valle De Oro	CAMPO	JAMACHA ROAD	CPA BOUNDARY	2	2.75
Valle De Oro	CAMPO	END OF SR-94 / BEGINNING OF CAMPO	VIA MERCADO	4	0.06

Appendix A
Base Year Deficiencies
County Facilities

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Alpine	ALPINE	TAVERN	BOULDERS	Light Collector	Town Collector	0.17
Alpine	ALPINE	WEST VICTORIA	ELTINGE / MARSHALL	Light Collector	Collector	0.11
Alpine	ALPINE	ELTINGE / MARSHALL	WHEELER ST.	Light Collector	Collector	0.56
Alpine	ALPINE	WHEELER ST.	BAY MDOWS/MARINO	Light Collector	Town Collector	0.11
Alpine	ALPINE	BAY MDOWS/MARINO	.04 AFTER ROCK	Light Collector	Town Collector	0.31
Alpine	TAVERN	RAMP I-8 WB	RAMP I-8 EB	Light Collector	Collector	0.33
Alpine	WILLOWS	WILLOWS	RAMP I-8 EB	Light Collector	Collector	0.22
Alpine	WILLOWS	WILLOWSIDE	VIEJAS GRADE	Light Collector	Collector	0.44
Alpine	WILLOWS	HILLCREST	WILLOWSIDE	Light Collector	Town Collector	0.12
Alpine	WILLOWS	VIA LA MANCHA	HILLCREST	Light Collector	Town Collector	0.45
Barona	WILDCAT CANYON	BARONA CASINO	PATA RANCH	Light Collector	Collector	5.75
Bonsall	EAST VISTA	OSBORNE	CPA BOUNDARY	Light Collector	Collector	0.28
Bonsall	EAST VISTA	OLD RIVER	EVERGREEN	Town Collector	Collector	0.50
Bonsall	EAST VISTA	EVERGREEN	HUTCHISON	Town Collector	Collector	0.67
Bonsall	EAST VISTA	HUTCHISON	ORMSBY/GOPHER CA	Town Collector	Collector	0.59
Bonsall	EAST VISTA	ORMSBY/GOPHER CA	OSBORNE	Town Collector	Collector	1.32
Bonsall	MISSION	CPA BOUNDARY	PALA	Light Collector	Collector	0.50
Bonsall	CAMINO DEL REY	WEST LILAC	OLD RIVER	Light Collector	Town Collector	0.06
Bonsall	SANTA FE	BIRDFARM	OSBORNE	Light Collector	Collector	0.51
County Islands	POMERADO	WILLOW CREEK	RAMP I-15 NB	Light Collector	Major	0.13
Crest-Dehesa	DEHESA	HARBISON CANYON	SYCUAN	Light Collector	Town Collector	0.73
Crest-Dehesa	DEHESA	CALLE ENCANTO	VISTA GRANDE	Light Collector	Town Collector	0.32
Crest-Dehesa	DEHESA	WILLOW GLEN	SINGING HILLS GC	Light Collector	Town Collector	0.42
Crest-Dehesa	GREENFIELD	CANDLE	SYCAMORE	Light Collector	Collector	0.15
Crest-Dehesa	GREENFIELD	SYCAMORE	LA CRESTA	Light Collector	Collector	0.30
Crest-Dehesa	SYCUAN ROAD	DEHESA	CASINO WAY	Light Collector	Town Collector	0.35
Fallbrook	AVIATION	WISCONSIN	MISSION	Light Collector	Town Collector	0.09
Fallbrook	FALLBROOK	MAIN	OLD STAGE	Light Collector	Town Collector	0.12
Fallbrook	FALLBROOK	OLD STAGE	MANDARIN	Light Collector	Collector	0.25
Fallbrook	FALLBROOK	MANDARIN	GOLDEN	Light Collector	Town Collector	0.27
Fallbrook	MAIN	MISSION	IVY	Light Collector	Town Collector	0.09
Fallbrook	MAIN	IVY	ALVARADO	Light Collector	Collector	0.18
Fallbrook	MAIN	ALVARADO	FIG	Light Collector	Town Collector	0.06
Fallbrook	MAIN	FIG	COLLEGE	Light Collector	Collector	0.28

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Fallbrook	MAIN	COLLEGE	ASH	Light Collector	Collector	0.18
Fallbrook	MAIN	ASH	FALLBROOK	Light Collector	Collector	0.16
Fallbrook	MAIN	FALLBROOK	AVIATION	Light Collector	Collector	0.38
Fallbrook	MAIN	AVIATION	AMMUNITION	Light Collector	Collector	0.38
Fallbrook	MAIN	AMMUNITION	CLEMMENS	Light Collector	Collector	0.25
Fallbrook	MISSION	EL PAISANO	WILLOW GLEN	Light Collector	Collector	0.69
Fallbrook	MISSION	EL PAISANO	HAMILTON	Light Collector	Collector	1.13
Fallbrook	MISSION	WILLOW GLEN	LIVE OAK PARK	Light Collector	Collector	1.77
Fallbrook	MISSION	LIVE OAK PARK	OLD 395	Light Collector	Collector	1.42
Fallbrook	MISSION	OLD 395	RAMP I-15 SB	Light Collector	Collector	0.11
Fallbrook	MISSION	RAMP I-15 SB	RAMP I-15 NB	Light Collector	Town Collector	0.15
Fallbrook	MISSION	HAMILTON	DAVIS	Light Collector	Town Collector	0.70
Fallbrook	MISSION	DAVIS	STAGE COACH	Light Collector	Town Collector	0.18
Fallbrook	MISSION	STAGE COACH	GUM TREE	Light Collector	Town Collector	0.13
Fallbrook	MISSION	INDUSTRIAL	SANTA MARGARITA	Light Collector	Collector	0.36
Fallbrook	MISSION	GUM TREE	INDUSTRIAL	Light Collector	Collector	0.91
Fallbrook	MISSION	SANTA MARGARITA	BRANDON	Light Collector	Collector	0.51
Fallbrook	MISSION	BRANDON	IOWA	Light Collector	Collector	0.56
Fallbrook	MISSION	STAGE COACH	OLIVE HILL	Light Collector	Collector	0.17
Fallbrook	MISSION	OLIVE HILL	WINTER HAVEN	Light Collector	Collector	0.29
Fallbrook	MISSION	WINTER HAVEN	OVERLAND	Light Collector	Collector	0.59
Fallbrook	MISSION	OVERLAND	BIG OAK RANCH	Light Collector	Collector	0.52
Fallbrook	MISSION	BIG OAK RANCH	GREEN CANYON	Light Collector	Collector	0.89
Fallbrook	MISSION	GREEN CANYON	VIA ENCINOS	Light Collector	Collector	0.62
Fallbrook	MISSION	VIA ENCINOS	HELLERS BEND	Light Collector	Collector	0.71
Fallbrook	MISSION	HELLERS BEND	VIA MONSERATE	Light Collector	Collector	1.48
Fallbrook	MISSION	VIA MONSERATE	BAJA MISSION	Light Collector	Collector	0.22
Fallbrook	MISSION	BAJA MISSION	LA CANADA	Light Collector	Collector	0.63
Fallbrook	MISSION	LA CANADA	CPA BOUNDARY	Light Collector	Collector	1.60
Fallbrook	MISSION	ORANGE	MAIN	Town Collector	Collector	0.09
Fallbrook	MISSION	IOWA	ORANGE	Town Collector	Collector	0.10
Fallbrook	OLD STAGE	PALOMINO	MISSION	Light Collector	Town Collector	0.13
Fallbrook	RECHE	STAGE COACH	RECHE WAY	Light Collector	Town Collector	0.20
Fallbrook	RECHE	RECHE WAY	FALLBROOK	Light Collector	Town Collector	0.31

Appendix A
Base Year Deficiencies
County Facilities

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Fallbrook	RECHE	FALLBROOK	LOS AMIGOS	Light Collector	Town Collector	0.08
Fallbrook	STAGE COACH	FALLBROOK	MARITA	Light Collector	Collector	0.51
Fallbrook	STAGE COACH	MARITA	RECHE	Light Collector	Collector	0.50
Lakeside	CHANNEL	LAKESIDE	MAPLEVIEW	Light Collector	Town Collector	0.13
		.31 MILES SOUTH OF KAY JAY / MOBILE HOME PARK ENTRANCE				
Lakeside	I-8 BUSINESS / MAIN	.45 MILES SOUTH OF LOS COCHES	LOS COCHES	Light Collector	Town Collector	0.41
Lakeside	I-8 BUSINESS / MAIN	LOS COCHES	LAVALA	Light Collector	Town Collector	0.50
Lakeside	LAKE JENNINGS PA	EL MONTE	PINKARD	Light Collector	Town Collector	1.37
Lakeside	LAKE JENNINGS PA	PINKARD	HARRITT	Light Collector	Town Collector	0.10
Lakeside	LAKE JENNINGS PA	HARRITT	HWY 8/BLOSSOM VA	Light Collector	Collector	0.23
Lakeside	LAKE JENNINGS PA	HWY 8/BLOSSOM VA	RAMP I-8 WB	Light Collector	Collector	0.10
Lakeside	LAKE JENNINGS PA	RAMP I-8 WB	RAMP I-8 WB	Light Collector	Town Collector	0.03
Lakeside	LAKE JENNINGS PA	RAMP I-8 WB	I8-EB OFF RAMP	Light Collector	Collector	0.14
Lakeside	LOS COCHES	BOWER	LAKEVIEW	Town Collector	Collector	0.40
Lakeside	LOS COCHES	LAKEVIEW	I-8 BUSINESS / MAIN	Town Collector	Collector	0.58
Lakeside	MAPLEVIEW	SR-67	MAINE	Light Collector	Collector	0.07
Lakeside	MAPLEVIEW	SR-67 SB	SR-67 NB	Light Collector	Town Collector	0.02
Lakeside	OLDE 80	SIERRA ALTA	PECAN PARK	Light Collector	Town Collector	0.03
Lakeside	RIVERFORD	WOODSIDE(N)	RAMP SR-67 SB	Light Collector	Town Collector	0.04
Lakeside	WILDCAT CANYON	PATA RANCH	WILLOW	Light Collector	Collector	5.56
			857 FT WEST OF WINTER GARDEN			
Lakeside	WOODSIDE	RIVERVIEW	WINTER GARDEN	Light Collector	Town Collector	0.18
Lakeside	WOODSIDE	MARILLA	RIVERVIEW	Light Collector	Town Collector	0.21
		RAMP SR-67 NB - ON				
Lakeside	WOODSIDE	RAMP	MARILLA	Light Collector	Collector	0.59
			RAMP SR-67 NB - ON			
Lakeside	WOODSIDE	RIVERFORD	RAMP	Light Collector	Collector	0.12
		RAMP SR-67 NB - OFF				
Lakeside	WOODSIDE	RAMP	RIVERFORD	Light Collector	Town Collector	0.06
North County Metro	BEAR VALLEY	BIRCH	IDAHO	Light Collector	Collector	0.31
North County Metro	BEAR VALLEY	IDAHO	LANDAVO / CAIN	Light Collector	Collector	0.22

Appendix A
Base Year Deficiencies
County Facilities

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
North County Metro	BEAR VALLEY	LANDAVO / CAIN	SUBURBAN HILLS	Light Collector	Collector	0.28
North County Metro	BEAR VALLEY	ELDORADO	ENCINO	Light Collector	Collector	1.15
North County Metro	BEAR VALLEY	SAN PASQUAL VALL	ELDORADO	Town Collector	Collector	0.42
North County Metro	BUENA CREEK	MONTE VISTA	SUGARBUSH	Light Collector	Town Collector	0.61
North County Metro	BUENA CREEK	HARTWRIGHT	HIDDEN OAK	Light Collector	Town Collector	0.70
North County Metro	BUENA CREEK	SYCAMORE	HARTWRIGHT	Light Collector	Town Collector	0.03
North County Metro	BUENA CREEK	SOUTH SANTA FE	SYCAMORE	Light Collector	Town Collector	0.02
North County Metro	DEER SPRINGS	MESA ROCK	MOUNTAIN MEADOW	Light Collector	Collector	0.11
North County Metro	DEER SPRINGS	SARVER	MESA ROCK	Light Collector	Collector	2.89
North County Metro	DEER SPRINGS	MARILYN	SARVER	Light Collector	Collector	0.74
North County Metro	DEL DIOS	VIA RANCHO PKWY	DATE	Light Collector	Collector	0.20
North County Metro	DEL DIOS	DATE	ELM	Light Collector	Collector	0.74
North County Metro	OLIVE	GRAPEVINE	GRANADA	Light Collector	Collector	0.39
North County Metro	RANCHO SANTA FE	LAKE SAN MARCOS	CAMINO DEL ARROYO	Major	Prime Arterial	0.83
North County Metro	ROBELINI	SOUTH SANTA FE	EL VALLE OPULENT	Light Collector	Collector	0.15
North County Metro	ROBELINI	EL VALLE OPULENT	SYCAMORE	Light Collector	Collector	0.32
North County Metro	SAN PASQUAL	ZERMATT	VIA RANCHO	Light Collector	Collector	0.99
North County Metro	SOUTH SANTA FE	MONTGOMERY	YORK	Light Collector	Collector	1.00
North County Metro	SOUTH SANTA FE	YORK	WOODLAND	Light Collector	Collector	0.12
North County Metro	SOUTH SANTA FE	WOODLAND	TIBER	Light Collector	Prime Arterial	0.37
North County Metro	SOUTH SANTA FE	TIBER	ROBELINI	Light Collector	Major	0.37
North County Metro	SOUTH SANTA FE	ROBELINI	SYCAMORE	Light Collector	Collector	0.16
North County Metro	SOUTH SANTA FE	SYCAMORE	ABELIA	Light Collector	Collector	0.14
North County Metro	SOUTH SANTA FE	ABELIA	PALMYRA	Light Collector	Collector	0.22
North County Metro	SOUTH SANTA FE	PALMYRA	AZALEA	Light Collector	Collector	0.40
North County Metro	SOUTH SANTA FE	AZALEA	POINSETTIA	Light Collector	Collector	0.28
North County Metro	SOUTH SANTA FE	POINSETTIA	SMILAX	Light Collector	Collector	0.61
North County Metro	SOUTH SANTA FE	SMILAX	BOSSTICK	Light Collector	Collector	0.38
North County Metro	SYCAMORE	SHADOW RIDGE	WATSON / HIBISCUS	Major	Prime Arterial	0.29
North County Metro	VALLEY CENTER	ESCONDIDO CPA	VALLEY CENTER CPA			
North County Metro	VIA RANCHO	BOUNDARY	BOUNDARY	Light Collector	Collector	0.38
North County Metro	VIA RANCHO	VALLEY	LAKE	Light Collector	Town Collector	0.06
North County Metro	VIA RANCHO	LAKE	HIGHLANDS WEST	Light Collector	Town Collector	0.20
North County Metro	VIA RANCHO	FELICITA	MONTESANO	Light Collector	Collector	0.26

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
North County Metro	VIA RANCHO	VIA LOMA VISTA	FELICITA	Light Collector	Town Collector	0.74
North County Metro	VIA RANCHO	HIGHLANDS WEST	EUCALYPTUS	Light Collector	Town Collector	0.50
North County Metro	SAN PASQUAL ROAD	VIENTO VALLE	SAN PASQUAL VALLEY	Light Collector	Town Collector	1.08
Pendleton-De Luz	HARBOR	SAN DIEGO / I5 RAMP	SAN LUIS REY	Light Collector	Town Collector	0.05
Pendleton-De Luz	HARBOR	SAN LUIS REY	SANTA FE	Light Collector	Town Collector	0.12
Pendleton-De Luz	SAN DIEGO / HARBOR	I5 - NB OFF TO HARBOR WEST	I5 - NB OFF TO HARBOR EAST	Light Collector	Collector	0.07
Pendleton-De Luz	SAN DIEGO / HARBOR	RAMP I-5 NB	COAST	Light Collector	Collector	0.33
Pendleton-De Luz	SAN DIEGO / HARBOR	VANDEGRIFT	I5 - NB OFF TO HARBOR WEST	Major	Prime Arterial	0.18
Pepper Drive-Bosto	BRADLEY	MAGNOLIA	RAMP SR-67 SB	Light Collector	Collector	0.12
Pepper Drive-Bosto	BRADLEY	RAMP SR-67 SB	RAMP SR-67 NB	Light Collector	Collector	0.16
Pepper Drive-Bosto	BRADLEY	RAMP SR-67 NB	GRAVES	Light Collector	Collector	0.11
Pepper Drive-Bosto	BRADLEY	GRAVES	STONE EDGE CIR	Light Collector	Town Collector	0.11
Pepper Drive-Bosto	BRADLEY	STONE EDGE CIR	150 FT AFTER STONE EDGE EAST	Light Collector	Town Collector	0.09
Pepper Drive-Bosto	GRAVES	GRAVES CT	BRADLEY	Light Collector	Town Collector	0.29
Pepper Drive-Bosto	GREENFIELD	BRADLEY ACCESS / GREENFIELD ACCESS	BALLANTYNE	Light Collector	Town Collector	0.07
Pepper Drive-Bosto	GREENFIELD	DIAMOND	01ST	Light Collector	Town Collector	0.13
Pepper Drive-Bosto	MAGNOLIA	AIRPORT	DENNY	Light Collector	Collector	0.24
Pepper Drive-Bosto	MAGNOLIA	DENNY	BRADLEY	Light Collector	Collector	0.20
Pepper Drive-Bosto	MAGNOLIA	BRADLEY	CYPRESS	Light Collector	Town Collector	0.15
Pepper Drive-Bosto	MAGNOLIA	CYPRESS	VERNON	Light Collector	Town Collector	0.31
Pepper Drive-Bosto	PEPPER	VULCAN	ROXANNE	Light Collector	Town Collector	0.07
Pepper Drive-Bosto	PEPPER	ROXANNE	MARLINDA	Light Collector	Town Collector	0.20
Ramona	SAN VICENTE	WARNOCK	KEYES	Light Collector	Collector	0.67
Ramona	SAN VICENTE	KEYES	DYE	Light Collector	Town Collector	0.07
Ramona	SAN VICENTE	DYE	BUNNIE KING	Light Collector	Town Collector	0.29
Ramona	SAN VICENTE	BUNNIE KING	CHUCKWAGON	Light Collector	Town Collector	1.29
Ramona	SAN VICENTE	CHUCKWAGON	WILDCAT CANYON	Light Collector	Town Collector	0.21
Ramona	SAN VICENTE	WILDCAT CANYON	VICENTE MEADOW	Light Collector	Collector	0.64
San Dieguito	DEL DIOS	ELM	MT ISRAEL	Light Collector	Collector	2.59
San Dieguito	DEL DIOS	MT ISRAEL	RANCHO	Light Collector	Collector	0.11

Appendix A
Base Year Deficiencies
County Facilities

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
San Dieguito	DEL DIOS	RANCHO	CALLE AMBIENTE	Light Collector	Collector	7.48
San Dieguito	DEL DIOS	CALLE AMBIENTE	VIA CUATRO CAMIN	Light Collector	Collector	1.32
San Dieguito	DEL DIOS	LUNA DE MIEL	EL CAMINO DEL NORTE	Light Collector	Collector	1.34
San Dieguito	LA BAJADA	EL MIRLO	LA NORIA	Light Collector	Town Collector	0.29
San Dieguito	PASEO DELICIAS	EL CAMINO DEL NO	EL MONTEVIDEO	Light Collector	Collector	1.13
San Dieguito	PASEO DELICIAS	EL MONTEVIDEO	LAVALLE PLATEADA	Light Collector	Collector	1.09
San Dieguito	PASEO DELICIAS	LAVALLE PLATEADA	LA FREMONTIA	Light Collector	Collector	0.18
San Dieguito	PASEO DELICIAS	LA FREMONTIA	VIA DE LA VALLE	Light Collector	Collector	0.10
San Dieguito	PASEO DELICIAS	VIA DE LA VALLE	LA GRANADA	Light Collector	Town Collector	0.29
San Dieguito	VIA DE LA VALLE	PASEO DELICIAS	LAS COLINAS	Light Collector	Town Collector	0.02
San Dieguito	VIA DE LA VALLE	LAS COLINAS	VIA DE SANTA FE	Light Collector	Town Collector	0.56
San Dieguito	VIA DE LA VALLE	VIA DE SANTA FE	VIA DE SANTA FE	Light Collector	Collector	0.06
San Dieguito	VIA DE LA VALLE	CALZADA DEL BOSQ	LAS PALOMAS	Light Collector	Town Collector	0.87
San Dieguito	VIA DE LA VALLE	LAS PALOMAS	CANCHA DE GOLF	Light Collector	Town Collector	0.16
San Dieguito	VIA DE LA VALLE	CANCHA DE GOLF	LAS PLANIDERAS	Light Collector	Collector	1.22
San Dieguito	VIA DE LA VALLE	LAS PLANIDERAS	CPA BOUNDARY	Light Collector	Collector	0.32
			790 FT SOUTH OF CAMINITO PORTA			
San Dieguito	VIA DE LA VALLE	ARROYO ROSITA	DELGADA	Light Collector	Collector	0.36
Spring Valley	BANCROFT	CPA BOUNDARY	RAMP SR-94 EB	Light Collector	Collector	0.05
Spring Valley	BANCROFT	RAMP SR-94 EB	HELIX	Light Collector	Collector	0.08
Spring Valley	BANCROFT	HELIX	KOONCE	Light Collector	Collector	0.33
Spring Valley	BANCROFT	KOONCE	KENWOOD	Light Collector	Collector	0.37
Spring Valley	BANCROFT	KENWOOD	SWITZER	Light Collector	Collector	0.19
Spring Valley	BANCROFT	SWITZER	OLIVE	Light Collector	Collector	0.12
Spring Valley	BANCROFT	OLIVE	LAMAR	Light Collector	Collector	0.50
Spring Valley	BANCROFT	LAMAR	TROY	Light Collector	Collector	0.35
Spring Valley	CAMPO	RAMP SR-125 NB	KENWOOD	Light Collector	Collector	0.16
Spring Valley	CAMPO	KENWOOD	SR-94 WB	Light Collector	Collector	0.27
Spring Valley	JAMACHA BOULEVAR	SWEETWATER SPRIN	POINTE PARKWAY	Light Collector	Collector	0.98
Spring Valley	JAMACHA BOULEVAR	WHITE STONE	SPRING GLEN	Light Collector	Collector	0.64
Spring Valley	JAMACHA BOULEVAR	JAMACHA ROAD	WHITE STONE	Light Collector	Collector	0.59
Spring Valley	KENWOOD	RAMP SR-94 EB	RAMP SR-94 WB	Light Collector	Collector	0.19
Spring Valley	SWEETWATER	BLOSSOM	HARNES	Major	Prime Arterial	0.54

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Base Year Deficiencies
County Facilities

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Spring Valley	SWEETWATER	HARNES	SPRING VISTA	Major	Prime Arterial	0.51
Spring Valley	SWEETWATER	SPRING VISTA	JAMACHA ROAD	Major	Prime Arterial	0.38
Spring Valley	SWEETWATER SPRIN	DEL RIO	DON PICO	Major	Prime Arterial	0.12
Spring Valley	SWEETWATER SPRIN	DON PICO	CRISTOBAL	Major	Prime Arterial	0.16
Spring Valley	WORTHINGTON	PARADISE VALLEY	VERDE RIDGE	Light Collector	Town Collector	0.11
Spring Valley	WORTHINGTON	VERDE RIDGE	SWEETWATER / SOUTHBAY PKWY	Light Collector	Town Collector	0.33
Sweetwater	BONITA	SWEETWATER	SAN MIGUEL	Light Collector	Collector	0.24
Sweetwater	BONITA	SAN MIGUEL	FRISBIE	Light Collector	Collector	1.15
Sweetwater	BONITA	CORDELE / VILLA BONITA	ANDORRA	Major	Prime Arterial	0.79
Sweetwater	BONITA	ANDORRA	PLZA	Major	Prime Arterial	0.83
Sweetwater	BRIARWOOD	SOUTH BAY PARKWA	BONITA/LYNNWOOD	Light Collector	Collector	0.03
Sweetwater	BRIARWOOD	RAMP SR-54 EB	ROBINWOOD	Light Collector	Town Collector	0.05
Sweetwater	CENTRAL	AUDUBON	CORRAL CANYON	Light Collector	Town Collector	0.24
Sweetwater	CENTRAL	HAZELHURST	AUDUBON	Light Collector	Town Collector	0.08
Sweetwater	CENTRAL	FRISBIE	HAZELHURST	Light Collector	Town Collector	0.13
Sweetwater	SWEETWATER	WORTHINGTON / SB PARKWAY	QUARRY	Light Collector	Collector	0.66
Sweetwater	SWEETWATER	QUARRY	DEGEN	Light Collector	Collector	1.04
Sweetwater	SWEETWATER	DEGEN	BONITA	Light Collector	Collector	0.32
Sweetwater	SWEETWATER	BRIARWOOD	BONITA WOODS	Light Collector	Town Collector	0.40
Sweetwater	WILLOW	SWEETWATER	BONITA	Light Collector	Collector	0.45
Valle De Oro	BANCROFT	CAMPO	RAMP SR-94 WB	Light Collector	Collector	0.09
Valle De Oro	BANCROFT	RAMP SR-94 WB	CPA BOUNDARY	Light Collector	Collector	0.07
Valle De Oro	CALLE VERDE	538 FT EAST OF AVOCADO	VIA MERCADO	Light Collector	Town Collector	0.13
Valle De Oro	CAMPO	SR-94 WB	MERRITT BLVD	Light Collector	Collector	0.10
Valle De Oro	CAMPO	MERRITT BLVD	BANCROFT	Light Collector	Collector	0.41
Valle De Oro	CAMPO	BANCROFT	HELIX	Light Collector	Collector	0.38
Valle De Oro	CAMPO	HELIX	ROGERS	Light Collector	Town Collector	0.23
Valle De Oro	CAMPO	ROGERS	KENWOOD	Light Collector	Town Collector	0.14
Valle De Oro	CHASE	GROVE	BERNITA	Light Collector	Collector	0.22

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Base Year Deficiencies
County Facilities

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Valle De Oro	CHASE	BERNITA	MONUMENT HILL	Light Collector	Collector	1.19
Valle De Oro	CHASE	MONUMENT HILL	FUERTE	Light Collector	Collector	0.14
Valle De Oro	CHASE	FUERTE	BRAYTON	Light Collector	Collector	0.16
Valle De Oro	CHASE	BRAYTON	SR 54	Light Collector	Collector	0.14
Valle De Oro	CHASE	SR 54	JAMACHA ROAD	Light Collector	Collector	0.23
Valle De Oro	FUERTE	GROSSMONT	SIERRA VISTA	Light Collector	Collector	0.40
Valle De Oro	FUERTE	SIERRA VISTA	SUMMIT	Light Collector	Collector	0.62
Valle De Oro	FUERTE	SUMMIT	PANDORA	Light Collector	Collector	0.63
Valle De Oro	FUERTE	PANDORA	LEMON	Light Collector	Collector	0.21
Valle De Oro	FUERTE	LEMON	HELIX	Light Collector	Collector	0.72
Valle De Oro	FUERTE	HELIX	GRANDVIEW	Light Collector	Collector	0.82
Valle De Oro	FUERTE	GRANDVIEW	CRESTLAND	Light Collector	Town Collector	0.20
Valle De Oro	FUERTE	CRESTLAND	ALZEDA	Light Collector	Town Collector	0.13
Valle De Oro	FUERTE	ALZEDA	CALAVO	Light Collector	Town Collector	0.13
Valle De Oro	FUERTE	CALAVO	AVOCADO	Light Collector	Town Collector	0.23
Valle De Oro	HILLSDALE	JAMACHA ROAD	LA VALHALLA	Light Collector	Town Collector	0.29
Valle De Oro	KENWOOD	RAMP SR-94 WB	CAMPO	Light Collector	Collector	0.20
Valle De Oro	NORTH BARCELONA	CAMPO	DOLORES	Light Collector	Town Collector	0.06
Valle De Oro	VIA MERCADO	CALLE VERDE	CAMPO	Light Collector	Collector	0.31
Valley Center	CHAMPAGNE	GOPHER CANYON	OLD CASTLE	Light Collector	Collector	0.32
Valley Center	OLD 395	CIRCLE R	GOPHER CANYON	Light Collector	Town Collector	0.15
Valley Center	VALLEY CENTER	COLE GRADE	MILLER	Light Collector	Collector	1.04
Valley Center	VALLEY CENTER	MILLER	CHAPARREL	Light Collector	Collector	0.94
Valley Center	VALLEY CENTER	CHAPARREL	LILAC	Light Collector	Collector	0.59
Valley Center	VALLEY CENTER	LILAC	CALLE DE VISTA	Light Collector	Collector	0.55
Valley Center	VALLEY CENTER	CALLE DE VISTA	SUNDAY	Light Collector	Collector	0.32
Valley Center	VALLEY CENTER	SUNDAY	MIRAR DE VALLE	Light Collector	Collector	0.94
Valley Center	VALLEY CENTER	MIRAR DE VALLE	WOODS VALLEY	Light Collector	Collector	0.56
Valley Center	VALLEY CENTER	WOODS VALLEY	BANBURY	Light Collector	Collector	0.29
Valley Center	VALLEY CENTER	BANBURY	CPA BOUNDARY	Light Collector	Collector	5.02

Appendix A
Base Year Deficiencies
County Facilities

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
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APPENDIX B – BUILDOUT DEFICIENCIES

Appendix B
Buildout Deficiencies
County Facilities

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Alpine	ALPINE	DUNBAR	RAMP I-8 EB	Light Collector	Town Collector	0.07
Alpine	ALPINE	TAVERN	WEST VICTORIA	Light Collector	Collector	1.40
Alpine	ALPINE	WEST VICTORIA	Eltinge / MARSHALL	Light Collector	Collector	0.11
Alpine	ALPINE	Eltinge / MARSHALL	BAY MDOWS/MARINO	Light Collector	Collector	0.78
Alpine	ALPINE	BAY MDOWS/MARINO	SO GRADE/E VICTO	Light Collector	Collector	0.91
Alpine	SOUTH GRADE	ELTINGE	OLIVE VIEW	Light Collector	Town Collector	0.08
Alpine	TAVERN	MONTEREY PL	VICTORIA PARK	Light Collector	Collector	1.20
Alpine	TAVERN	VICTORIA PARK	RAMP I-8 WB	Light Collector	Major	0.07
Alpine	TAVERN	RAMP I-8 HOV EB	ALPINE	Major	Prime Arterial	0.20
Alpine	TAVERN	ARNOLD	TAVERN CT	Light Collector	Collector	0.29
Alpine	VICTORIA PARK	TAVERN	GENTIAN	Light Collector	Town Collector	0.40
Alpine	WILLOWS	RAMP I-8 EB	ALPINE	Light Collector	Town Collector	0.02
Alpine	WILLOWS	WILLOWS	RAMP I-8 EB	Light Collector	Collector	0.22
Alpine	WILLOWS	WILLOWS	WILLOWSIDE	Light Collector	Collector	1.15
Alpine	WILLOWS	WILLOWSIDE	VIEJAS GRADE	Light Collector	Collector	0.44
Barona	WILDCAT CANYON	PAINTED ROCK / SAN VINCENTE OAK	FEATHERSTONE CANYON	Light Collector	Town Collector	2.09
Barona	WILDCAT CANYON	FEATHERSTONE CANYON	BARONA ROAD	Light Collector	Town Collector	1.87
Barona	WILDCAT CANYON	BARONA ROAD	PATA RANCH	Light Collector	Collector	5.75
Bonsall	CHAMPAGNE	LAWRENCE WELK	OLD CASTLE	Light Collector	Collector	1.80
Bonsall	EAST VISTA	MISSION	OLD RIVER	Town Collector	Collector	0.13
Bonsall	EAST VISTA	OLD RIVER	EVERGREEN	Town Collector	Collector	0.50
Bonsall	EAST VISTA	EVERGREEN	HUTCHISON	Town Collector	Collector	0.67
Bonsall	EAST VISTA	HUTCHISON	ORMSBY/GOPHER CA	Town Collector	Collector	0.59
Bonsall	EAST VISTA	ORMSBY/GOPHER CA	STRAWBERRY HILL	Town Collector	Collector	0.43
Bonsall	EAST VISTA	STRAWBERRY HILL	OSBORNE	Light Collector	Collector	0.89
Bonsall	GOPHER CANYON	ORMSBY	VISTA VALLEY	Light Collector	Collector	1.98
Bonsall	GOPHER CANYON	VISTA VALLEY	TWIN OAKS VALLEY	Light Collector	Collector	1.57
Bonsall	GOPHER CANYON	TWIN OAKS VALLEY	AVOHILL	Light Collector	Collector	1.65
Bonsall	GOPHER CANYON	AVOHILL	RAMP I-15 SB	Light Collector	Collector	1.63
Bonsall	GOPHER CANYON	RAMP I-15 SB	RAMP I-15 NB	Light Collector	Collector	0.19
Bonsall	GOPHER CANYON	RAMP I-15 NB	OLD 395	Light Collector	Collector	0.14
Bonsall	MISSION	PALA	CPA BOUNDARY	Light Collector	Collector	0.35

Appendix B
Buildout Deficiencies
County Facilities

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Bonsall	NORTH RIVER	KARI LANE	VIA PUERTA DEL S	Light Collector	Collector	0.10
Bonsall	NORTH RIVER	VIA PUERTA DEL S	MISSION	Light Collector	Collector	0.85
Bonsall	OLD 395	WEST LILAC	RAMP I-15 SB	Light Collector	Town Collector	0.85
Bonsall	OLD RIVER	CAMINO DEL REY	GOLF CLUB	Light Collector	Town Collector	0.33
Bonsall	OLD RIVER	GOLF CLUB	DENTRO	Light Collector	Town Collector	0.44
Bonsall	OLD RIVER	DENTRO	GOPHER CANYON	Light Collector	Town Collector	1.04
Bonsall	OLD RIVER	GOPHER CANYON	new OLD RIVER	Light Collector	Town Collector	0.53
Bonsall	OLIVEHILL / CAMINO DEL REY	MISSION	OLD RIVER	Light Collector	Town Collector	0.25
Bonsall	VIA PUERTA DEL S	OLIVE HILL	VALLE DEL SOL	Light Collector	Town Collector	0.60
Bonsall	VIA PUERTA DEL S	VALLE DEL SOL	NORTH RIVER	Light Collector	Town Collector	1.52
Bonsall	CAMINO DEL REY	OLD RIVER	WEST LILAC	Light Collector	Collector	0.59
County Islands	POMERADO	WILLOW CREEK	RAMP I-15 NB	Light Collector	Major	0.13
Crest-Dehesa	DEHESA	CALLE ENCANTO	VISTA GRANDE	Light Collector	Collector	0.64
Crest-Dehesa	DEHESA	VISTA GRANDE	SINGING TRAILS	Light Collector	Collector	0.89
Crest-Dehesa	DEHESA	SINGING TRAILS	WILLOW GLEN	Light Collector	Town Collector	0.81
Crest-Dehesa	DEHESA	WILLOW GLEN	HARBISON CANYON	Light Collector	Collector	6.44
Crest-Dehesa	DEHESA	HARBISON CANYON	VISTA DE LA MONTANA	Light Collector	Collector	0.50
Crest-Dehesa	DEHESA	VISTA DE LA MONTANA	SYCUAN	Light Collector	Collector	0.97
Crest-Dehesa	GREENFIELD	SYCAMORE	LA CRESTA	Light Collector	Collector	0.30
Crest-Dehesa	SYCUAN ROAD	DEHESA	SYCUAN CASINO	Light Collector	Collector	0.70
Desert	BORREGO SPRINGS	CHRISTMAS S	STIRRUP	Light Collector	Collector	0.42
Desert	CHRISTMAS N	BORREGO SPRINGS	PALM CANYON	Light Collector	Collector	0.13
Desert	CHRISTMAS S	CHRISTMAS N	BORREGO SPRINGS	Light Collector	Collector	0.14
Desert	PALM CANYON	SUN AND SHADOWS	OCOTILLO	Light Collector	Town Collector	0.22
Desert	PALM CANYON	OCOTILLO	CHRISTMAS N	Light Collector	Collector	0.95
Desert	PALM CANYON	CHRISTMAS N	STIRRUP	Light Collector	Collector	0.49
Desert	PALM CANYON	STIRRUP	DI GIORGIO	Light Collector	Town Collector	0.23
Desert	PALM CANYON	DI GIORGIO	FAIRWAY	Light Collector	Town Collector	0.48
Fallbrook	AVIATION	WISCONSIN	MISSION	Light Collector	Town Collector	0.09
Fallbrook	FALLBROOK	MAIN	OLD STAGE	Light Collector	Collector	0.25
Fallbrook	FALLBROOK	OLD STAGE	MANDARIN	Light Collector	Collector	0.25
Fallbrook	FALLBROOK	MANDARIN	GOLDEN	Light Collector	Collector	0.54
Fallbrook	FALLBROOK	GOLDEN	MC DONALD	Light Collector	Town Collector	0.35

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Fallbrook	FALLBROOK	MC DONALD	DEBBY	Light Collector	Town Collector	0.28
Fallbrook	FALLBROOK	DEBBY	STAGE COACH	Light Collector	Town Collector	0.22
Fallbrook	MAIN	MISSION	IVY	Light Collector	Town Collector	0.09
Fallbrook	MAIN	IVY	ALVARADO	Light Collector	Collector	0.18
Fallbrook	MAIN	ALVARADO	FIG	Light Collector	Town Collector	0.06
Fallbrook	MAIN	FIG	COLLEGE	Light Collector	Collector	0.28
Fallbrook	MAIN	COLLEGE	ASH	Light Collector	Collector	0.18
Fallbrook	MAIN	ASH	FALLBROOK	Light Collector	Collector	0.16
Fallbrook	MAIN	FALLBROOK	AVIATION	Light Collector	Collector	0.38
Fallbrook	MAIN	AVIATION	AMMUNITION	Light Collector	Collector	0.38
Fallbrook	MAIN	AMMUNITION	CLEMMENS	Light Collector	Collector	0.25
Fallbrook	MISSION	RAMP I-15 NB	OLD 395	Light Collector	Collector	0.10
Fallbrook	MISSION	RAMP I-15 SB	RAMP I-15 NB	Light Collector	Collector	0.31
Fallbrook	MISSION	OLD 395	RAMP I-15 SB	Light Collector	Prime Arterial	0.22
Fallbrook	MISSION	LIVE OAK PARK	OLD 395	Light Collector	Collector	1.42
Fallbrook	MISSION	WILLOW GLEN	LIVE OAK PARK	Light Collector	Collector	1.77
Fallbrook	MISSION	EL PAISANO	WILLOW GLEN	Light Collector	Collector	0.69
Fallbrook	MISSION	HAMILTON	EL PAISANO	Light Collector	Collector	1.13
Fallbrook	MISSION	HAMILTON	DAVIS	Light Collector	Collector	1.39
Fallbrook	MISSION	DAVIS	STAGE COACH	Light Collector	Collector	0.35
Fallbrook	MISSION	STAGE COACH	GUM TREE	Light Collector	Collector	0.26
Fallbrook	MISSION	GUM TREE	INDUSTRIAL	Light Collector	Collector	0.91
Fallbrook	MISSION	INDUSTRIAL	SANTA MARGARITA	Light Collector	Collector	0.36
Fallbrook	MISSION	SANTA MARGARITA	BRANDON	Light Collector	Collector	0.51
Fallbrook	MISSION	BRANDON	IOWA	Light Collector	Collector	0.56
Fallbrook	MISSION	IOWA	ORANGE	Town Collector	Collector	0.10
Fallbrook	MISSION	ORANGE	MAIN	Town Collector	Collector	0.09
Fallbrook	MISSION	OLD STAGE	PEPPER TREE	Major	Prime Arterial	0.16
Fallbrook	MISSION	STAGE COACH	OLIVE HILL	Light Collector	Collector	0.17
Fallbrook	MISSION	WINTER HAVEN	OVERLAND	Light Collector	Collector	0.59
Fallbrook	MISSION	OVERLAND	BIG OAK RANCH	Light Collector	Collector	0.52
Fallbrook	MISSION	BIG OAK RANCH	GREEN CANYON	Light Collector	Collector	0.89
Fallbrook	MISSION	GREEN CANYON	VIA ENCINOS	Light Collector	Collector	0.62

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Fallbrook	MISSION	VIA ENCINOS	HELLERS BEND	Light Collector	Collector	0.71
Fallbrook	MISSION	HELLERS BEND	VIA MONSERATE	Light Collector	Collector	1.48
Fallbrook	MISSION	VIA MONSERATE	BAJA MISSION	Light Collector	Collector	0.22
Fallbrook	MISSION	BAJA MISSION	LA CANADA	Light Collector	Collector	0.63
Fallbrook	MISSION	LA CANADA	CPA BOUNDARY	Light Collector	Collector	1.60
Fallbrook	OLD 395	MISSION	MISSION	Light Collector	Collector	0.64
Fallbrook	OLD 395	RECHE	CANONITA	Light Collector	Town Collector	0.72
Fallbrook	OLD 395	CANONITA	TECALOTE	Light Collector	Town Collector	0.57
Fallbrook	OLD 395	TECALQTE	PALA MESA	Light Collector	Collector	2.17
Fallbrook	OLD 395	PALA MESA	VIA BELMONTE	Light Collector	Collector	1.03
Fallbrook	OLD 395	VIA BELMONTE	PALA	Light Collector	Collector	0.83
Fallbrook	OLD 395	PALA	DULIN	Light Collector	Town Collector	0.54
Fallbrook	OLD 395	DULIN	WEST LILAC	Light Collector	Collector	3.15
Fallbrook	OLIVE HILL	MISSION	ELM TREE	Light Collector	Collector	0.92
Fallbrook	OLIVE HILL	ELM TREE	LA TARA	Light Collector	Collector	0.73
Fallbrook	OLIVE HILL	LA TARA	WHITE HORSE	Light Collector	Collector	1.10
Fallbrook	OLIVE HILL	WHITE HORSE	LADERA VISTA	Light Collector	Collector	1.00
Fallbrook	OLIVE HILL	LADERA VISTA	BURMA	Light Collector	Collector	0.47
Fallbrook	OLIVE HILL	BURMA	RANCHO BONITO	Light Collector	Town Collector	0.31
Fallbrook	OLIVE HILL	RANCHO BONITO	RANCHO CAM	Light Collector	Town Collector	0.36
Fallbrook	OLIVE HILL	RANCHO CAM	GATEVIEW	Light Collector	Collector	1.68
Fallbrook	OLIVE HILL	GATEVIEW	VIA PUERTA DEL S	Light Collector	Collector	1.41
Fallbrook	PANKEY	END OF ROADWAY	PALA	Light Collector	8L Prime	0.92
Fallbrook	PANKEY	PALA	SHEARER	Light Collector	Collector	0.17
Fallbrook	PEPPER TREE	MISSION	WOODLARK	Light Collector	Collector	0.23
Fallbrook	RECHE	STAGE COACH	RECHE WY	Light Collector	Collector	0.40
Fallbrook	RECHE	RECHE WY	FALLBROOK	Light Collector	Collector	0.62
Fallbrook	RECHE	FALLBROOK	LOS AMIGOS	Light Collector	Collector	0.16
Fallbrook	RECHE	LOS AMIGOS	GREEN CANYON	Light Collector	Collector	0.34
Fallbrook	RECHE	GREEN CANYON	LIVE OAK PARK	Light Collector	Town Collector	0.40
Fallbrook	RECHE	LIVE OAK PARK	GIRD	Light Collector	Town Collector	0.51
Fallbrook	RECHE	GIRD	SCOOTER	Light Collector	Town Collector	0.67
Fallbrook	RECHE	SCOOTER	CALLE TECOLOTIAN	Light Collector	Town Collector	0.58

Appendix B
Buildout Deficiencies
County Facilities

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Fallbrook	RECHE	CALLE TECOLOTTIAN	RANGER	Light Collector	Town Collector	0.53
Fallbrook	RECHE	RANGER	OLD 395	Light Collector	Town Collector	0.39
Fallbrook	STAGE COACH	FALLBROOK	MARITA	Light Collector	Collector	0.51
Fallbrook	STAGE COACH	MARITA	RECHE	Light Collector	Collector	0.50
Fallbrook	STAGE COACH	RECHE	RANCHWOOD	Light Collector	Town Collector	0.38
Fallbrook	STAGE COACH	RANCHWOOD	JOY	Light Collector	Collector	0.25
Fallbrook	STAGE COACH	JOY	BROOKE	Light Collector	Collector	0.72
Fallbrook	STAGE COACH	BROOKE	KNOLLWOOD	Light Collector	Town Collector	0.61
Fallbrook	STAGE COACH	KNOLLWOOD	MORRO	Town Collector	Collector	0.48
Fallbrook	STAGE COACH	MORRO	MISSION	Town Collector	Collector	0.48
Jamul-Dulzura	JAMUL	TUK A WILE	YUCCA	Light Collector	Town Collector	1.04
Jamul-Dulzura	JAMUL	YUCCA	LYONS VALLEY	Light Collector	Town Collector	0.08
Jamul-Dulzura	JEFFERSON	OLIVE VISTA	SR-94	Light Collector	Town Collector	0.18
Jamul-Dulzura	LYONS VALLEY	JEFFERSON	RESERVOIR	Light Collector	Collector	0.39
Jamul-Dulzura	LYONS VALLEY	RESERVOIR	JAMUL	Light Collector	Collector	0.36
Jamul-Dulzura	LYONS VALLEY	JAMUL	RIO GRANDE	Light Collector	Collector	0.85
Jamul-Dulzura	LYONS VALLEY	RIO GRANDE	PLEASANT VIEW	Light Collector	Collector	0.70
Jamul-Dulzura	PROCTOR VALLEY	MELODY	CALLE BUENO GANA	Light Collector	Town Collector	0.11
Jamul-Dulzura	PROCTOR VALLEY	CALLE BUENO GANA	SCHLEE CANYON	Light Collector	Town Collector	0.41
Jamul-Dulzura	PROCTOR VALLEY	SCHLEE CANYON	MAXFIELD	Light Collector	Collector	0.52
Jamul-Dulzura	PROCTOR VALLEY	MAXFIELD	JEFFERSON	Light Collector	Collector	0.38
Lakeside	ASHWOOD	WILLOW	MAPLEVIEW	Light Collector	Collector	2.23
Lakeside	EL NOPAL	FUTURE N/S MASS	MARJEAN	Light Collector	Town Collector	0.33
Lakeside	EL NOPAL	MARJEAN	RIVERFORD	Light Collector	Collector	0.22
Lakeside	I-8 BUSINESS / MAIN	JACKSON HILL	LAVALA	Light Collector	Collector	1.01
Lakeside	I-8 BUSINESS / MAIN	LOS COCHES/CM CA	JACKSON HILL	Light Collector	Collector	0.91
		.31 MILES SOUTH OF KAY JAY / MOBILE HOME PARK				
Lakeside	I-8 BUSINESS / MAIN		LOS COCHES/CM CA	Light Collector	Collector	0.81
Lakeside	I-8 BUSINESS / MAIN	PINKARD	LAKEVIEW / EL DORADO	Light Collector	Town Collector	0.23
Lakeside	JULIAN	CACTUS	LOS COCHES/MAINE	Light Collector	Town Collector	0.18
Lakeside	JULIAN	PINO	LAKEVIEW	Light Collector	Town Collector	0.16

Appendix B
Buildout Deficiencies
County Facilities

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CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Lakeside	LAKE JENNINGS PA	EL MONTE	BASS	Light Collector	Collector	1.00
Lakeside	LAKE JENNINGS PA	BASS	PINKARD	Light Collector	Collector	1.74
Lakeside	LAKE JENNINGS PA	PINKARD	HARRITT	Light Collector	Collector	0.20
Lakeside	LAKE JENNINGS PA	HARRITT	HWY 8/BLOSSOM VA	Light Collector	Collector	0.23
Lakeside	LAKE JENNINGS PA	HWY 8/BLOSSOM VA	RAMP I-8 WB	Light Collector	Collector	0.10
Lakeside	LAKE JENNINGS PA	RAMP I-8 WB	RAMP I-8 WB	Light Collector	Collector	0.06
Lakeside	LAKE JENNINGS PA	RAMP I-8 WB	OLDE 80	Light Collector	Collector	0.14
Lakeside	LAKESIDE	RIVERSIDE	CHANNEL	Town Collector	Collector	0.42
Lakeside	LOS COCHES	JULIAN	DEL SOL	Town Collector	Collector	0.94
Lakeside	LOS COCHES	DEL SOL	LOS COCHES CT	Town Collector	Collector	1.01
Lakeside	LOS COCHES	LOS COCHES CT	BOWER	Town Collector	Collector	0.76
Lakeside	LOS COCHES	BOWER	LAKEVIEW	Town Collector	Collector	0.40
Lakeside	LOS COCHES	LAKEVIEW	I-8 BUSINESS / MAIN	Town Collector	Collector	0.58
Lakeside	MAPLEVIEW	CHANNEL	SR-67	Light Collector	Collector	0.42
Lakeside	MAPLEVIEW	SR-67	MAINE	Light Collector	Prime Arterial	0.17
Lakeside	MAPLEVIEW	MAINE	VINE	Town Collector	Prime Arterial	0.11
Lakeside	OLDE 80	RIDGE HILL	PECAN PARK	Light Collector	Collector	0.07
Lakeside	OLDE 80	PECAN PARK / SIERRA	PECAN PARK	Light Collector	Collector	0.61
Lakeside	OLDE 80	PECAN PARK	BOND	Light Collector	Collector	0.30
Lakeside	PEPPER	02ND/WINTER GARD	PEERLESS	Light Collector	Town Collector	0.25
Lakeside	RIVERFORD	EL NOPAL	RIVERSIDE/MAST	Light Collector	Collector	0.16
Lakeside	RIVERFORD	RIVERSIDE/MAST	WOODSIDE(N)	Town Collector	Major	0.63
Lakeside	RIVERFORD	WOODSIDE(N)	RAMP SR-67 SB	Light Collector	Collector	0.08
Lakeside	RIVERFORD	RAMP SR-67 SB	WOODSIDE SOUTH	Light Collector	Collector	0.18
Lakeside	RIVERSIDE	RIVERFORD	PALM ROW	Town Collector	Collector	0.56
Lakeside	RIVERSIDE	PALM ROW	VISTA CAMINO	Town Collector	Collector	0.42
Lakeside	RIVERSIDE	VISTA CAMINO	NEW BEDFORD	Town Collector	Collector	0.21
Lakeside	LAKE JENNING PARK	RAMP I-8 EB	OLDE 80	Light Collector	Collector	0.07
Lakeside	LAKE JENNING PARK	LAKE JENNINGS PARK	RAMP I-8 EB	Light Collector	Collector	0.06
Lakeside	VALLE VISTA	VISTA CAMINO	PAGOSA	Light Collector	Town Collector	0.38
Lakeside	VALLE VISTA	PAGOSA	RIVERSIDE	Light Collector	Town Collector	0.41
Lakeside	WILDCAT CANYON	PATA RANCH	WILLOW	Light Collector	Collector	5.56

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Appendix B
Buildout Deficiencies
County Facilities

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Lakeside	WILLOW	SR-67	MORENO	Light Collector	Town Collector	0.25
Lakeside	WILLOW	MORENO	FILLBROOK	Light Collector	Town Collector	0.29
Lakeside	WILLOW	FILLBROOK	WILDCAT CANYON	Light Collector	Town Collector	0.36
Lakeside	WOODSIDE	NB OFF RAMP	RIVERFORD	Light Collector	Collector	0.13
Lakeside	WOODSIDE	RIVERFORD	RAMP SR-67 NB	Light Collector	Collector	0.12
Lakeside	WOODSIDE	RAMP SR-67 NB	MARILLA	Light Collector	Collector	0.59
Lakeside	WOODSIDE	MARILLA	RIVERVIEW	Light Collector	Collector	0.42
Lakeside	WOODSIDE	RIVERVIEW	WINTER GARDENS	Light Collector	Town Collector	0.35
North County Metro	17TH	LENDEE	SAN PASQUAL VALL	Light Collector	Collector	0.44
North County Metro	BEAR VALLEY	BIRCH	IDAHO	Light Collector	Collector	0.31
North County Metro	BEAR VALLEY	IDAHO	LANDAVO / CAIN	Light Collector	Collector	0.22
North County Metro	BEAR VALLEY	LANDAVO	SUBURBAN HILLS	Light Collector	Collector	0.28
North County Metro	BUENA CREEK / SOUTH SANTA FE	SOUTH SANTA FE	SYCAMORE / ROBELINI	Light Collector	Collector	0.04
North County Metro	BUENA CREEK	SYCAMORE	HARTWRIGHT / BUENA CREEK	Light Collector	Collector	0.06
North County Metro	BUENA CREEK	HARTWRIGHT / BUENA CREEK	HIDDEN OAK	Light Collector	Collector	1.40
North County Metro	BUENA CREEK	HIDDEN OAK	LONE OAK	Light Collector	Collector	0.33
North County Metro	BUENA CREEK	LONE OAK	MONTE VISTA	Light Collector	Collector	0.50
North County Metro	BUENA CREEK	MONTE VISTA	SUGARBUSH	Light Collector	Collector	1.21
North County Metro	BUENA CREEK	SUGARBUSH	HOLLYBERRY	Light Collector	Collector	0.17
North County Metro	BUENA CREEK	HOLLYBERRY	FREDAS HILL	Light Collector	Town Collector	0.28
North County Metro	BUENA CREEK	FREDAS HILL	BLUE BIRD CANYON	Light Collector	Town Collector	0.50
North County Metro	BUENA CREEK	BLUE BIRD CANYON	TAMARA	Light Collector	Town Collector	0.43
North County Metro	CAMINO DEL ARROYO	CAMINO LINDA DRIVE	RANCHO SANTA FE	Light Collector	Town Collector	0.06
North County Metro	CHAMPAGNE	WELK VIEW	LAWRENCE WELK	Light Collector	Collector	0.74
North County Metro	CHAMPAGNE	LAWRENCE	MOUNTAIN MEADOW	Light Collector	Collector	3.62
North County Metro	DEER SPRINGS	MULBERRY / SYCAMORE DRIVE	MARILYN	Light Collector	Collector	0.33
North County Metro	DEER SPRINGS	MARILYN	SARVER	Light Collector	Collector	0.74
North County Metro	DEER SPRINGS	SARVER	MESA ROCK	Light Collector	Prime Arterial	5.79
North County Metro	DEER SPRINGS	MESA ROCK	MOUNTAIN MEADOW	Light Collector	Prime Arterial	0.21

Appendix B
Buildout Deficiencies
County Facilities

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
North County Metro	DEL DIOS	COUNTRY CLUB	ELM	Light Collector	Collector	0.74
North County Metro	HARMONY GROVE	WILGEN	CPA BOUNDARY	Light Collector	Town Collector	1.66
North County Metro	HARMONY GROVE	COUNTRY CLUB	WILGEN	Light Collector	Town Collector	0.39
North County Metro	HOLLYBERRY	BUENA CREEK	SALEM	Light Collector	Collector	0.48
North County Metro	N CENTRE CITY	MOUNTAIN MEADOW	JESMOND DENE	Light Collector	Town Collector	0.58
North County Metro	N CENTRE CITY	JESMOND DENE	MESA ROCK	Light Collector	Collector	2.51
North County Metro	N CENTRE CITY	MESA ROCK	IVY DELL	Light Collector	Collector	0.71
North County Metro	N CENTRE CITY	IVY DELL	CENTRE CITY	Light Collector	Collector	0.42
		.005 WEST OF BENNETT / ROCK				
North County Metro	ROCK SPRING	SPRING INTERSECTION	BENNETT	Light Collector	Collector	0.01
North County Metro	ROCK SPRING	MONTIEL	SEVEN OAKES	Light Collector	Town Collector	0.05
North County Metro	SALEM	HOLLYBERRY	EMMA	Light Collector	Collector	1.00
North County Metro	SAN PASQUAL	ZERMATT	VIA RANCHO	Light Collector	Collector	0.99
North County Metro	SOUTH SANTA FE	WOODLAND	ROBELINI	Major	Prime Arterial	0.56
North County Metro	SYCAMORE	ROBELINI	BUENA CREEK	Major	Prime Arterial	0.50
North County Metro	SYCAMORE	RAMP SR-78 WB	RAMP SR-78 EB	Prime Arterial	Prime	0.09
North County Metro	SYCAMORE	SHADOW RIDGE	HIBISCUS	Major	Prime Arterial	0.29
North County Metro	VALLEY CENTER	ESCONDIDO CPA BOUNDARY	VALLEY CENTER CPA BOUNDARY	Major	Prime Arterial	0.09
North County Metro	VIA RANCHO	VALLEY	LAKE	Light Collector	Town Collector	0.06
North County Metro	VIA RANCHO	LAKE	HIGHLANDS WEST	Light Collector	Town Collector	0.20
North County Metro	VIA RANCHO	HIGHLANDS WEST	EUCALYPTUS	Light Collector	Town Collector	0.50
North County Metro	VIA RANCHO	VISTA DE LA CRESTA	VIA LOMA VISTA	Light Collector	Town Collector	0.57
North County Metro	VIA RANCHO	VIA LOMA VISTA	FELICITA	Light Collector	Collector	1.49
North County Metro	VIA RANCHO	FELICITA	MONTESANO	Light Collector	Collector	0.26
North County Metro	SAN PASQUAL ROAD	VIENTO VALLE	VIA SOL	Light Collector	Collector	2.15
Otay	AIRWAY	FARADAY	ENRICO FERMI	Light Collector	Collector	0.48
Otay	ALTA	DONOVAN STATE PRISON	CALZADA DE LA FUENTE	Light Collector	Collector	0.95
Otay	ALTA		CALZADA DE LA FUENTE	Light Collector	Prime Arterial	0.93
Otay	ALTA	PASEO DE LA FUENTE	PASEO DE LA FUENTE	Light Collector	Prime Arterial	0.83
		OTAY MESA				

Appendix B
Buildout Deficiencies
County Facilities

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Otay	ENRICO FERMI	OTAY MESA	RAMP SR-11 WB	Major	Prime Arterial	0.40
Otay	ENRICO FERMI	RAMP SR-11 WB	RAMP SR-11 EB	Major	Prime Arterial	0.18
Otay	ENRICO FERMI	RAMP SR-11 EB	AIRWAY	Major	Prime Arterial	0.65
Otay	ENRICO FERMI	AIRWAY	SIEMPRE VIVA	Light Collector	Prime Arterial	0.90
Otay	HARVEST	LONESTAR	OTAY MESA	Light Collector	Prime Arterial	2.93
Otay	LONESTAR	PIPER RANCH	HARVEST	Light Collector	Prime Arterial	2.31
Otay	OTAY LAKES	WUESTE	LOWER OTAY LAKE	Light Collector	Prime Arterial	1.21
Otay	OTAY LAKES	LOWER OTAY LAKE	CAMPO RD	Light Collector	Town Collector	3.29
Otay	OTAY MESA	PASEO DE LAS AMERICA	FARADAY	Major	Prime Arterial	1.58
Otay	OTAY MESA	FARADAY	ENRICO FERMI	Major	Prime Arterial	0.92
Otay	OTAY MESA	ENRICO FERMI	ALTA	Major	Prime Arterial	5.14
Pala-Pauma	VALLEY CENTER	PALA/SR-76	GOLSH	Town Collector	Collector	1.76
Pendleton-De Luz	BASILONE	RAMP I-5 SB	RAMP I-5 NB	Light Collector	Collector	0.19
Pendleton-De Luz	COAST	SAN DIEGO / I5 RAMP	MONTEREY	Light Collector	Collector	0.13
Pendleton-De Luz	SAN DIEGO / I5 RAMP	VANDEGRIFT	RAMP	Major	Prime Arterial	0.36
Pendleton-De Luz	I5 / HARBOR DRIVE	NB OFF RAMP	SB ON RAMP	Light Collector	Prime Arterial	0.78
Pendleton-De Luz	VANDEGRIFT	WIRE MTN/MAIN GA	RAMP I-5 NB	Major	8L Prime	0.93
Pepper Drive-Bosto	BRADLEY	GRAVES	STONE EDGE CIRC	Light Collector	Collector	0.40
Pepper Drive-Bosto	BRADLEY	STONE EDGE	SAM HILL	Light Collector	Collector	0.23
Pepper Drive-Bosto	BRADLEY	SAM HILL	BERRY DALE	Light Collector	Collector	0.21
Pepper Drive-Bosto	BRADLEY	SUMMER PLACE	01ST	Light Collector	Town Collector	0.12
Pepper Drive-Bosto	GRAVES	PEPPER	GRAVES CT	Light Collector	Town Collector	0.14
Pepper Drive-Bosto	GRAVES	GRAVES CT	BRADLEY	Light Collector	Town Collector	0.29
Pepper Drive-Bosto	GREENFIELD	VERNON	GRAVES	Light Collector	Collector	0.86
Pepper Drive-Bosto	GREENFIELD	DENVER	DIAMOND	Light Collector	Collector	0.27
Pepper Drive-Bosto	GREENFIELD	DIAMOND	01ST	Light Collector	Collector	0.27
Pepper Drive-Bosto	GREENFIELD	01ST	ORO	Light Collector	Town Collector	0.26
Pepper Drive-Bosto	GREENFIELD	ORO	02ND	Light Collector	Town Collector	0.21
Pepper Drive-Bosto	MAGNOLIA	AIRPORT	DENNY	Light Collector	Collector	0.53
Pepper Drive-Bosto	MAGNOLIA	DENNY	BRADLEY	Light Collector	Collector	0.20
Pepper Drive-Bosto	MAGNOLIA	BRADLEY	CYPRESS	Light Collector	Collector	0.31
Pepper Drive-Bosto	MAGNOLIA	CYPRESS	VERNON	Light Collector	Collector	0.63

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Buildout Deficiencies
County Facilities

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Pepper Drive-Bosto	PEERLESS	LILY	GREENFIELD	Light Collector	Town Collector	0.13
Pepper Drive-Bosto	PEPPER	TETON	VULCAN	Light Collector	Town Collector	0.05
Pepper Drive-Bosto	PEPPER	VULCAN	ROXANNE	Light Collector	Town Collector	0.07
Pepper Drive-Bosto	PEPPER	ROXANNE	GARYWOOD/MARLINDA	Light Collector	Town Collector	0.20
Pepper Drive-Bosto	PEPPER	GARYWOOD/MARLINDA	BATES	Light Collector	Town Collector	0.14
Pepper Drive-Bosto	PEPPER	BATES	MOLLISON	Light Collector	Collector	0.30
Pepper Drive-Bosto	PEPPER	MOLLISON	PEPPER VILLA	Light Collector	Town Collector	0.07
Pepper Drive-Bosto	PEPPER	PEPPER VILLA	01ST	Light Collector	Town Collector	0.25
Pepper Drive-Bosto	PEPPER	SOMER LANE	02ND/WINTER GARD	Light Collector	Town Collector	0.24
Rainbow	OLD 395	MISSION	RAINBOW GLEN	Light Collector	Collector	2.35
Rainbow	OLD 395	05TH	RAINBOW GLEN	Light Collector	Collector	1.14
Rainbow	OLD 395	02ND	05TH	Light Collector	Town Collector	0.29
Rainbow	RAINBOW VALLEY W	RAMP	OLD 395	Light Collector	Town Collector	0.04
Ramona	MONTECITO	DAVIS	RAMONA	Light Collector	Town Collector	0.39
Ramona	OLIVE	MAPLE	PINE	Light Collector	Collector	0.50
Ramona	OLIVE	PINE	ELM	Light Collector	Town Collector	0.29
Ramona	RAMONA	RAYMOND	MAIN	Light Collector	Town Collector	0.14
Ramona	RAMONA	ROWLEY	HANSON LANE	Light Collector	Town Collector	0.07
Ramona	SAN VICENTE	H STREET	BARGER	Town Collector	Collector	0.94
Ramona	SAN VICENTE	HANSON	JAY BIRD	Town Collector	Collector	0.51
Ramona	SAN VICENTE	JAY BIRD	CREELMAN	Town Collector	Collector	0.49
Ramona	SAN VICENTE	WARNOCK	KEYES	Light Collector	Collector	0.67
Ramona	SAN VICENTE	KEYES	DYE	Light Collector	Collector	0.14
Ramona	SAN VICENTE	DYE	BUNNIE KING	Light Collector	Collector	0.58
Ramona	SAN VICENTE	BUNNIE KING	CHUCKWAGON	Light Collector	Collector	2.57
Ramona	SAN VICENTE	CHUCKWAGON	WILDCAT CANYON	Light Collector	Collector	0.41
Ramona	SAN VICENTE	WILDCAT CANYON	VICENTE MEADOW	Light Collector	Collector	0.64
Ramona	SAN VICENTE	SAN VICENTE	LITTLE KLONDIKE	Light Collector	Collector	0.75
Ramona	WILDCAT CANYON	LITTLE KLONDIKE	SAN VICENTE OAK	Light Collector	Town Collector	2.19
San Dieguito	CAMINO DEL NORTE	DOVE CANYON	RAMP	Light Collector	Prime Arterial	1.24
San Dieguito	CAMINO DEL NORTE	4S RANCH PARKWAY	DOVE CANYON	Light Collector	Collector	0.51
San Dieguito	DEL DIOS	ELM	MT ISRAEL	Light Collector	Collector	2.60
San Dieguito	DEL DIOS	MT ISRAEL	RANCHO	Light Collector	Collector	0.11

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
San Dieguito	DEL DIOS	RANCHO	LAKE DR	Light Collector	Collector	1.15
San Dieguito	DEL DIOS	LAKE	RANCHO DEL RIO	Light Collector	Collector	6.32
San Dieguito	DEL DIOS	RANCHO DEL RIO	LUNA DE MIEL	Light Collector	Collector	0.92
San Dieguito	DEL DIOS	LUNA DE MIEL	EL CAMINO DEL NORTE	Light Collector	Collector	1.34
San Dieguito	EL APAJO	VIA DE SANTA FE	SAN DIEGUITO	Light Collector	Town Collector	0.57
San Dieguito	ELFIN FOREST	ELFIN OAKS	HARMONY GROVE	Light Collector	Collector	2.74
San Dieguito	HARMONY GROVE	CRESTWIND/WILGEN	QUESTHAVEN	Light Collector	Town Collector	1.16
San Dieguito	LA BAJADA	CPA BOUNDARY	EL MIRLO	Light Collector	Collector	0.33
San Dieguito	LA BAJADA	EL MIRLO	LA NORIA	Light Collector	Collector	0.57
San Dieguito	PASEO DELICIAS	VIA DE LA VALLE	LA GRANADA	Light Collector	Town Collector	0.29
San Dieguito	PASEO DELICIAS	LA FREMONTIA	VIA DE LA VALLE	Light Collector	Major	0.10
San Dieguito	PASEO DELICIAS	LAVALLE PLATEADA	LA FREMONTIA	Light Collector	Collector	0.18
San Dieguito	PASEO DELICIAS	EL MONTEVIDEO	LAVALLE PLATEADA	Light Collector	Collector	1.09
San Dieguito	PASEO DELICIAS	EL CAMINO DEL NO	EL MONTEVIDEO	Light Collector	Collector	1.13
San Dieguito	RANCHO BERNARDO	CAM SAN BERNARDO	ALVA / CPA BOUNDARY	Major	Prime Arterial	0.57
San Dieguito	SAN DIEGUITO	WINLAND HILLS	CAM SANTA FE	Light Collector	Town Collector	0.74
San Dieguito	SAN DIEGUITO	RANCHO DIEGUENO	WINDLAND HILLS	Light Collector	Collector	0.66
San Dieguito	SAN DIEGUITO	CALLE DEL NIDO	RANCHO DIEGUENO	Light Collector	Town Collector	0.53
San Dieguito	SAN DIEGUITO	EL APAJO	CALLE DEL NIDO	Light Collector	Town Collector	0.08
San Dieguito	SAN DIEGUITO	VIA DOS VALLES	EL APAJO	Light Collector	Collector	1.48
San Dieguito	SAN DIEGUITO	SAN DIEGO CL / CPA BOUNDARY	VIA DOS VALLES	Light Collector	Collector	1.70
San Dieguito	SAN ELIJO RD	FALL VIEW	HIDDEN CANYON	Major	Prime Arterial	0.50
San Dieguito	VIA DE LA VALLE	PASEO DELICIAS	LAS COLINAS	Light Collector	Collector	0.05
San Dieguito	VIA DE LA VALLE	LAS COLINAS	VIA DE SANTA FE	Light Collector	Collector	1.12
San Dieguito	VIA DE LA VALLE	VIA DE SANTA FE	VIA DE SANTA FE	Light Collector	Collector	0.06
San Dieguito	VIA DE LA VALLE	VIA DE SANTA FE	LA GRACIA	Light Collector	Collector	0.79
San Dieguito	VIA DE LA VALLE	LA GRACIA	CALZADA DEL BOSQ	Light Collector	Town Collector	0.49
San Dieguito	VIA DE LA VALLE	CALZADA DEL BOSQ	LAS PALOMAS	Light Collector	Town Collector	0.87
San Dieguito	VIA DE LA VALLE	LAS PALOMAS	CANCHA DE GOLF	Light Collector	Town Collector	0.16
San Dieguito	VIA DE LA VALLE	CANCHA DE GOLF	LAS PLANIDERAS	Light Collector	Collector	1.22
San Dieguito	VIA DE LA VALLE	ARROYO ROSITA	CAMINO REAL	Light Collector	Collector	0.62
San Dieguito	VIA DE SANTA FE	VIA DE LA VALLE	CALZADA DEL BOSQ	Light Collector	Town Collector	0.65

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Buildout Deficiencies
County Facilities

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CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
San Diegoito	VIA DE SANTA FE	CALZADA DEL BOSQ	EL APAJO	Light Collector	Collector	0.83
Spring Valley	APPLE	GRAND AVE	RAMONA	Light Collector	Town Collector	0.15
Spring Valley	APPLE	RAMONA	MAYA	Light Collector	Town Collector	0.26
Spring Valley	BANCROFT	CPA BOUNDARY	RAMP SR-94 EB	Light Collector	Collector	0.05
Spring Valley	BANCROFT	RAMP SR-94 EB	HELIX	Light Collector	Collector	0.08
Spring Valley	BANCROFT	HELIX	KOONCE	Light Collector	Collector	0.33
Spring Valley	BANCROFT	KOONCE	KENWOOD	Light Collector	Collector	0.37
Spring Valley	BANCROFT	KENWOOD	SWITZER	Light Collector	Collector	0.19
Spring Valley	BANCROFT	SWITZER	OLIVE	Light Collector	Collector	0.12
Spring Valley	BANCROFT	OLIVE	LAMAR	Light Collector	Collector	0.50
Spring Valley	BANCROFT	LAMAR	TROY	Light Collector	Collector	0.35
Spring Valley	CAMPO	RAMP	KENWOOD	Light Collector	Collector	0.16
Spring Valley	CAMPO	KENWOOD	TERRACE	Light Collector	Collector	0.27
Spring Valley	JAMACHA BOULEVAR	WHITESTONE	JAMACHA ROAD	Light Collector	Collector	0.59
Spring Valley	JAMACHA BOULEVAR	SPRING GLEN	WHITESTONE	Light Collector	Collector	0.64
Spring Valley	JAMACHA BOULEVAR	SPRING GLEN	POINTE PARKWAY	Light Collector	Collector	0.18
Spring Valley	JAMACHA BOULEVAR	JAMACHA	SPRING GLEN	Light Collector	Collector	0.27
Spring Valley	JAMACHA BOULEVAR	SWEETWATER SPRIN	POINTE PARKWAY	Light Collector	Collector	0.52
Spring Valley	JAMACHA ROAD	RAMP SR-125 HOV	RAMP SR-125 NB	Major	Prime Arterial	0.18
Spring Valley	JAMACHA ROAD	RAMP SR-125 NB	SWEETWATER	Major	Prime Arterial	0.15
Spring Valley	KENWOOD	DALE	RAMP SR-94 EB	Light Collector	Town Collector	0.03
Spring Valley	KENWOOD	RAMP SR-94 EB	RAMP SR-94 WB	Light Collector	Collector	0.19
Spring Valley	PARADISE VALLEY	ELKELTON	RAMP SR-125 SB	Major	Prime Arterial	0.15
Spring Valley	PARADISE VALLEY	RAMP SR-125 SB	RAMP SR-125 NB	Major	Prime Arterial	0.29
Spring Valley	PARADISE VALLEY	RAMP SR-125 NB	SWEETWATER-NEW	Major	Prime Arterial	0.07
Spring Valley	SWEETWATER SPRIN	DEL RIO	DON PICO	Major	Prime Arterial	0.12
Spring Valley	SWEETWATER SPRIN	DON PICO	CRISTOBAL	Major	Prime Arterial	0.16
Spring Valley	TROY	SWEETWATER	CENTRAL	Light Collector	Collector	0.49
Spring Valley	TROY	CENTRAL	BANCROFT	Light Collector	Collector	0.43
Spring Valley	WORTHINGTON	PARADISE VALLEY	VERDE RIDGE	Light Collector	Town Collector	0.11
Sweetwater	BONITA	SWEETWATER	SAN MIGUEL	Light Collector	Collector	0.52
Sweetwater	BONITA	SAN MIGUEL	FRISBIE	Light Collector	Collector	0.86
Sweetwater	BONITA	FRISBIE	CENTRAL	Light Collector	Collector	0.28

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Buildout Deficiencies
County Facilities

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Sweetwater	BONITA	RANDY	PLZA BONITA/LYNN	Major	Prime Arterial	0.82
Sweetwater	BRIARWOOD	SOUTH BAY PARKWAY / FREEWAY	RAMP SR-54 EB	Light Collector	Collector	0.03
Sweetwater	BRIARWOOD	RAMP SR-54 EB	ROBINWOOD	Light Collector	Collector	0.10
Sweetwater	SWEETWATER	VALLEY	WILLOW	Light Collector	Town Collector	0.32
Sweetwater	SWEETWATER	BRIARWOOD	BONITA WOODS	Light Collector	Collector	0.81
Sweetwater	SWEETWATER	DEGEN	BONITA	Light Collector	Collector	0.32
Sweetwater	SWEETWATER	QUARRY	DEGEN	Light Collector	Collector	1.04
Sweetwater	SWEETWATER	SOUTH BAY PARKWAY / FREEWAY	QUARRY	Light Collector	Collector	0.66
Sweetwater	WILLOW	SWEETWATER	BONITA	Light Collector	Collector	0.45
Valle De Oro	BANCROFT	CAMPO	RAMP SR-94 WB	Light Collector	Town Collector	0.04
Valle De Oro	BANCROFT	RAMP SR-94 WB	CPA BOUNDARY	Light Collector	Collector	0.07
Valle De Oro	CAMPO	KENWOOD	TERRACE	Light Collector	Collector	0.10
Valle De Oro	CAMPO	TERRACE	BANCROFT	Light Collector	Collector	0.41
Valle De Oro	CAMPO	BANCROFT	HELI	Light Collector	Collector	0.38
Valle De Oro	CAMPO	HELI	ROGERS	Light Collector	Town Collector	0.38
Valle De Oro	CAMPO	ROGERS	KENWOOD	Light Collector	Town Collector	0.27
Valle De Oro	CHASE	GROVE	BERNITA	Light Collector	Collector	0.22
Valle De Oro	CHASE	BERNITA	CHASE LANE	Light Collector	Collector	0.50
Valle De Oro	CHASE	CHASE LANE	MONUMENT HILL	Light Collector	Collector	0.70
Valle De Oro	CHASE	MONUMENT HILL	FUERTE	Light Collector	Collector	0.14
Valle De Oro	CHASE	FUERTE	BRAYTON	Light Collector	Collector	0.16
Valle De Oro	CHASE	BRAYTON	JAMACHA ROAD	Light Collector	Collector	0.37
Valle De Oro	FUERTE	GROSSMONT SUMMIT	GROSSMONT	Light Collector	Town Collector	0.02
Valle De Oro	FUERTE	GROSSMONT	SIERRA VISTA	Light Collector	Town Collector	0.20
Valle De Oro	FUERTE	SIERRA VISTA	SUMMIT	Light Collector	Town Collector	0.31
Valle De Oro	FUERTE	SUMMIT	PANDORA	Light Collector	Town Collector	0.31
Valle De Oro	FUERTE	PANDORA	LEMON	Light Collector	Town Collector	0.10
Valle De Oro	FUERTE	LEMON	HELI	Light Collector	Collector	0.72
Valle De Oro	FUERTE	HELI	GRANDVIEW	Light Collector	Collector	0.82
Valle De Oro	HILLSDALE	CHASE	WIND RIVER	Light Collector	Town Collector	0.16
Valle De Oro	JAMUL	STEELE CANYON	IVANHOE RANCH	Light Collector	Collector	0.35

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County Facilities

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Valle De Oro	JAMUL	IVANHOE RANCH	COTTONWOOD SPRIN	Light Collector	Collector	0.95
Valle De Oro	JAMUL	COTTONWOOD SPRIN	TUK A WILE	Light Collector	Town Collector	1.34
Valle De Oro	KENWOOD	RAMP SR-94 WB	CAMPO	Light Collector	Collector	0.20
Valle De Oro	NORTH BARCELONA	CAMPO	DOLORES	Light Collector	Town Collector	0.06
Valle De Oro	STEELE CANYON	WILLOW GLEN	JAMUL	Light Collector	Collector	1.00
Valle De Oro	STEELE CANYON	JAMUL	OLD CALIFORNIA	Light Collector	Town Collector	0.19
Valle De Oro	VIA MERCADO	CALLE VERDE	CAMPO	Light Collector	Collector	0.31
Valle De Oro	WILLOW GLEN	HILLSDALE	.31 MILES BEFORE STEELE CANYON	Light Collector	Town Collector	0.81
Valley Center	CHAMPAGNE	OLD 395	OLD CASTLE	Light Collector	Collector	0.32
Valley Center	CHAMPAGNE	OLD CASTLE	CPA BOUNDARY	Light Collector	Collector	1.93
Valley Center	COLE GRADE	VIA VALENCIA	FRUITVALE	Town Collector	Collector	1.36
Valley Center	COLE GRADE	FRUITVALE	1003 ft NORTH OF VALLEY CENTER	Town Collector	Collector	0.96
Valley Center	COLE GRADE	1003 ft NORTH OF VALLEY CENTER	VALLEY CENTER	Town Collector	Major	0.38
Valley Center	LILAC	WEST LILAC	LILAC HILL	Light Collector	Town Collector	0.26
Valley Center	LILAC	LILAC HILL	OLD CASTLE	Light Collector	Town Collector	1.27
Valley Center	LILAC	OLD CASTLE	ROBLE VERDE	Light Collector	Collector	1.27
Valley Center	LILAC	ROBLE VERDE	ANTHONY	Light Collector	Collector	2.02
Valley Center	LILAC	ANTHONY	BETSWORTH	Light Collector	Collector	2.80
Valley Center	LILAC	BETSWORTH	VALLEY CENTER	Light Collector	Collector	0.58
Valley Center	MOUNTAIN MEADOW	AERIE	FRACE	Light Collector	Town Collector	0.26
Valley Center	OLD 395	CAM DEL REY	CIRCLE R	Light Collector	Collector	1.65
Valley Center	OLD 395	CIRCLE R	GOPHER CANYON	Light Collector	Collector	0.30
Valley Center	OLD CASTLE	CHAMPAGNE	PRIVATE ROAD e/o QUEEN ANN	Light Collector	Collector	3.44
Valley Center	OLD CASTLE	PRIVATE ROAD e/o QUEEN ANN	AIRFLIGHT	Light Collector	Town Collector	2.21
Valley Center	VALLEY CENTER	VESPER	COLE GRADE	Light Collector	Collector	0.43
Valley Center	VALLEY CENTER	COLE GRADE	MILLER	Major	Prime Arterial	1.04
Valley Center	VALLEY CENTER	MILLER	CHAPARREL	Major	Prime Arterial	0.94
Valley Center	VALLEY CENTER	CHAPARREL	LILAC	Major	Prime Arterial	0.59

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County Facilities

CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Valley Center	VALLEY CENTER	SUNDAY	CHARLAN	Major	Prime Arterial	0.94
Valley Center	VALLEY CENTER	CHARLAN	WOODS VALLEY	Major	Prime Arterial	0.56
Valley Center	VALLEY CENTER	WOODS VALLEY	BANBURY	Major	Prime Arterial	0.29
Valley Center	VALLEY CENTER	BANBURY	CPA BOUNDARY	Major	Prime Arterial	3.00

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State Facilities

CPA	Name	From	To	Lanes	Additional Lane Miles Required
Bonsall	MISSION	CPA BOUNDARY	.045 MILES WEST OF MISSION / PALA	2	13.66
Bonsall	MISSION	.045 WEST OF	.045 EAST OF MISSION / PALA	4	0.36
Bonsall	PALA	.045 EAST OF MISSION /	CPA BOUNDARY	2	2.55
Central Mountain	SR-78	RAMONA CPA - WEST OF	RAMONA CPA - EAST OF CENTRAL	2	0.42
Fallbrook	PALA	CPA BOUNDARY	COUSER CANYON ROAD	2	12.44
Jamul-Dulizura	CAMPO	CPA BOUNDARY / COUGAR	STONEY OAK ROAD	2	15.13
Jamul-Dulizura	SR-94	STONEY OAK ROAD	HONEY SPRING	2	0.83
Lakeside	SR-67	.2 miles South of SCRIPPS	.8 Miles South of FOSTER TRUCK TRAIL	2	2.23
Lakeside	SR-67	SCRIPPS POWAY PARKWAY	.2 Miles South of SCRIPPS POWAY	2	0.23
Lakeside	SR-67	CPA BOUNDARY	SCRIPPS POWAY PARKWAY	2	1.26
Lakeside	SR-67	VINE STREET ENTRANCE	MAPLEVIEW	3	0.92
Lakeside	SR-67	MAPLE VIEW	START OF SR. 67	4	0.07
Mountain Empire	TECATE	SR-94	HUMPHRIES ROAD	2	2.93
North County Metro	SAN PASQUAL VALLEY	BEAR VALLEY	.12 AFTER OLD SAN PASQUAL ROAD	2	2.24
North County Metro	SR-78	SYCAMORE (SEGMENT ON	SMILAX / CPA BOUNDARY	2	1.52
North Mountain	JULIAN / SR - 67	CPA BOUNDARY	SR-79	2	7.92
Pala-Pauma	SR-76	RED GATE ROAD (West Side)	CALLE EL POTRERO	2	2.50
Ramona	JULIAN / SR - 67	CPA BOUNDARY	MUSSEY GRADE	2	8.90
Ramona	JULIAN / SR - 67	OLD JULIAN	RAMONA CPA - WEST OF CENTRAL	2	3.43
Ramona	JULIAN / SR - 67 / MAIN	MUSSEY GRADE ROAD	MONTECITO	2	5.40
Ramona	JULIAN / SR - 67 / MAIN	10 TH	8TH	4	0.72
Ramona	SR-78	CPA BOUNDARY	HAVER FORD	2	3.85
Valle De Oro	CAMPO	JAMACHA ROAD	COUGAR CANYON ROAD	2	2.75

APPENDIX C – TIF IMPROVEMENT FACILITIES

Appendix C
TIF Improvement Facilities

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CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Alpine	ALPINE	DUNBAR	RAMP 18 EB	Light Collector	Town Collector	0.07
Alpine	ALPINE	TAVERN	WEST VICTORIA	Light Collector	Collector	1.40
Alpine	ALPINE	WEST VICTORIA	Eltinge / MARSHALL	Light Collector	Collector	0.11
Alpine	ALPINE	Eltinge / MARSHALL	BAY MDOWS/MARINO	Light Collector	Collector	0.78
Alpine	ALPINE	BAY MDOWS/MARINO	SO GRADE/E VICTO	Light Collector	Collector	0.91
Alpine	SOUTH GRADE	Eltinge	OLIVE VIEW	Light Collector	Town Collector	0.08
Alpine	TAVERN	MONTEREY PL	VICTORIA PARK	Light Collector	Collector	1.20
Alpine	TAVERN	VICTORIA PARK	RAMP 1-8 WB	Light Collector	Major	0.07
Alpine	TAVERN	RAMP 1-8 EB	ALPINE	Major	Prime Arterial	0.20
Alpine	TAVERN	ARNOLD	TAVERN CT	Light Collector	Collector	0.29
Alpine	VICTORIA PARK	TAVERN	GENTIAN	Light Collector	Town Collector	0.40
Alpine	WILLOWS	RAMP 1-8 EB	ALPINE	Light Collector	Town Collector	0.02
Barona	WILDCAT CANYON	PAINTED ROCK / SAN VINCENTE OAK	FEATHERSTONE CANYON	Light Collector	Town Collector	2.09
Barona	WILDCAT CANYON	FEATHERSTONE CANYON				
Barona	WILDCAT CANYON	BARONA ROAD	BARONA ROAD	Light Collector	Town Collector	1.87
Bonsall	CHAMPAGNE	BARONA ROAD	PATA RANCH	Light Collector	Collector	5.75
Bonsall	EAST VISTA	LAWRENCE WELK	OLD CASTLE	Light Collector	Collector	1.80
Bonsall	GOPHER CANYON	MISSION	OLD RIVER	Town Collector	Collector	0.13
Bonsall	GOPHER CANYON	ORMSBY	VISTA VALLEY	Light Collector	Collector	1.98
Bonsall	GOPHER CANYON	VISTA VALLEY	TWIN OAKS VALLEY	Light Collector	Collector	1.57
Bonsall	GOPHER CANYON	TWIN OAKS VALLEY	AVOHILL	Light Collector	Collector	1.65
Bonsall	GOPHER CANYON	AVOHILL	RAMP 1-15 SB	Light Collector	Collector	1.63
Bonsall	GOPHER CANYON	RAMP 1-15 SB	RAMP 1-15 NB	Light Collector	Collector	0.19
Bonsall	GOPHER CANYON	RAMP 1-15 NB	OLD 395	Light Collector	Collector	0.14
Bonsall	NORTH RIVER	KARI LANE	VIA PUERTA DEL S	Light Collector	Collector	0.10
Bonsall	NORTH RIVER	VIA PUERTA DEL S	MISSION	Light Collector	Collector	0.85
Bonsall	OLD 395	WEST LILAC	RAMP 1-15 SB	Light Collector	Town Collector	0.85
Bonsall	OLD RIVER	CAMINO DEL REY	GOLF CLUB	Light Collector	Town Collector	0.33
Bonsall	OLD RIVER	GOLF CLUB	DENTRO	Light Collector	Town Collector	0.44
Bonsall	OLD RIVER	DENTRO	GOPHER CANYON	Light Collector	Town Collector	1.04
Bonsall	OLD RIVER	GOPHER CANYON	new OLD RIVER	Light Collector	Town Collector	0.53
Bonsall	OLIVEHILL / CAMINO DEL REY	MISSION	WEST LILAC / CAMINO DEL REY	Light Collector	Town Collector	0.25

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CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Bonsall	VIA PUERTA DEL S	OLIVE HILL	VALLE DEL SOL	Light Collector	Town Collector	0.60
Bonsall	VIA PUERTA DEL S	VALLE DEL SOL	NORTH RIVER	Light Collector	Town Collector	1.52
Bonsall	WEST LILAC / CAMINO DEL REY	OLD RIVER	CAMINO DEL REY	Light Collector	Collector	0.59
Crest-Dehesa	DEHESA	CALLE ENCANTO	VISTA GRANDE	Light Collector	Collector	0.64
Crest-Dehesa	DEHESA	VISTA GRANDE	SINGING TRAILS	Light Collector	Collector	0.89
Crest-Dehesa	DEHESA	SINGING TRAILS	WILLOW GLEN	Light Collector	Town Collector	0.81
Crest-Dehesa	DEHESA	WILLOW GLEN	HARBISON CANYON	Light Collector	Collector	6.44
Crest-Dehesa	DEHESA	HARBISON CANYON	VISTA DE LA MONTANA	Light Collector	Collector	0.50
Crest-Dehesa	DEHESA	VISTA DE LA MONTANA	SYCUAN	Light Collector	Collector	0.97
Crest-Dehesa	SYCUAN	DEHESA	SYCUAN CASINO	Light Collector	Collector	0.70
Desert	BORREGO SPRINGS	CHRISTMAS S	STIRRUP	Light Collector	Collector	0.42
Desert	CHRISTMAS N	BORREGO SPRINGS	PALM CANYON	Light Collector	Collector	0.13
Desert	CHRISTMAS S	CHRISTMAS N	BORREGO SPRINGS	Light Collector	Collector	0.14
Desert	PALM CANYON	SUN AND SHADOWS	OCOTILLO	Light Collector	Town Collector	0.22
Desert	PALM CANYON	OCOTILLO	CHRISTMAS N	Light Collector	Collector	0.95
Desert	PALM CANYON	CHRISTMAS N	DIAMON BAR ROAD	Light Collector	Collector	0.49
Desert	PALM CANYON	STIRRUP	DI GIORGIO	Light Collector	Town Collector	0.23
Desert	PALM CANYON	DI GIORGIO	FAIRWAY	Light Collector	Town Collector	0.48
Fallbrook	FALLBROOK	MAIN	OLD STAGE	Light Collector	Collector	0.25
Fallbrook	FALLBROOK	MANDARIN	GOLDEN	Light Collector	Collector	0.54
Fallbrook	FALLBROOK	GOLDEN	MC DONALD	Light Collector	Town Collector	0.35
Fallbrook	FALLBROOK	MC DONALD	DEBBY	Light Collector	Town Collector	0.28
Fallbrook	FALLBROOK	DEBBY	STAGE COACH	Light Collector	Town Collector	0.22
Fallbrook	MISSION	RAMP I-15 NB	OLD 395	Light Collector	Collector	0.10
Fallbrook	MISSION	RAMP I-15 SB	RAMP I-15 NB	Light Collector	Collector	0.31
Fallbrook	MISSION	OLD 395	RAMP I-15 SB	Light Collector	Prime Arterial	0.22
Fallbrook	MISSION	HAMILTON	DAVIS	Light Collector	Collector	1.39
Fallbrook	MISSION	STAGE COACH	GUM TREE	Light Collector	Collector	0.26
Fallbrook	MISSION	OLD STAGE	PEPPER TREE	Major	Prime Arterial	0.16
Fallbrook	OLD 395	MISSION	CPA BOUNDARY	Light Collector	Collector	0.64
Fallbrook	OLD 395	RECHE	CANONITA	Light Collector	Town Collector	0.72
Fallbrook	OLD 395	CANONITA	TECALOTE	Light Collector	Town Collector	0.57
Fallbrook	OLD 395	TECALOTE	PALA MESA	Light Collector	Collector	2.17

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CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Fallbrook	OLD 395	PALA MESA	VIA BELMONTE	Light Collector	Collector	1.03
Fallbrook	OLD 395	VIA BELMONTE	PALA	Light Collector	Collector	0.83
Fallbrook	OLD 395	PALA	DULIN	Light Collector	Town Collector	0.54
Fallbrook	OLD 395	DULIN	DULIN	Light Collector	Collector	0.43
Fallbrook	OLD 395	DULIN	WEST LILAC	Light Collector	Collector	2.72
Fallbrook	OLIVE HILL	MISSION	AIRPARK DRIVEWAY	Light Collector	Collector	0.29
Fallbrook	OLIVE HILL	AIRPARK DRIVEWAY	ELM TREE	Light Collector	Collector	0.63
Fallbrook	OLIVE HILL	ELM TREE	LA TARA	Light Collector	Collector	0.73
Fallbrook	OLIVE HILL	LA TARA	WHITE HORSE	Light Collector	Collector	1.10
Fallbrook	OLIVE HILL	WHITE HORSE	LADERA VISTA	Light Collector	Collector	1.00
Fallbrook	OLIVE HILL	LADERA VISTA	BURMA	Light Collector	Collector	0.47
Fallbrook	OLIVE HILL	BURMA	RANCHO BONITO	Light Collector	Town Collector	0.31
Fallbrook	OLIVE HILL	RANCHO BONITO	RANCHO CAM	Light Collector	Town Collector	0.36
Fallbrook	OLIVE HILL	RANCHO CAM	GATEVIEW	Light Collector	Collector	1.68
Fallbrook	OLIVE HILL	GATEVIEW	VIA PUERTA DEL S	Light Collector	Collector	1.41
Fallbrook	PANKEY	.2 MILE NORTH OF PALA INTERSECTION	PALA	Light Collector	8L Prime	0.92
Fallbrook	PANKEY	PALA	SHEARER	Light Collector	Collector	0.17
Fallbrook	PEPPER TREE	MISSION	WOODLARK	Light Collector	Collector	0.23
Fallbrook	RECHE	STAGE COACH	RECHE WY	Light Collector	Collector	0.40
Fallbrook	RECHE	RECHE WY	FALLBROOK	Light Collector	Collector	0.62
Fallbrook	RECHE	FALLBROOK	LOS AMIGOS	Light Collector	Collector	0.16
Fallbrook	RECHE	LOS AMIGOS	GREEN CANYON	Light Collector	Collector	0.34
Fallbrook	RECHE	GREEN CANYON	LIVE OAK PARK	Light Collector	Town Collector	0.40
Fallbrook	RECHE	LIVE OAK PARK	GIRD	Light Collector	Town Collector	0.51
Fallbrook	RECHE	GIRD	SCOOTER	Light Collector	Town Collector	0.67
Fallbrook	RECHE	SCOOTER	CALLE TECOLOTIAN	Light Collector	Town Collector	0.58
Fallbrook	RECHE	CALLE TECOLOTIAN	RANGER	Light Collector	Town Collector	0.53
Fallbrook	RECHE	RANGER	OLD 395	Light Collector	Town Collector	0.39
Fallbrook	STAGE COACH	RECHE	RANCHWOOD	Light Collector	Town Collector	0.38
Fallbrook	STAGE COACH	RANCHWOOD	JOY	Light Collector	Collector	0.25
Fallbrook	STAGE COACH	JOY	BROOKE	Light Collector	Collector	0.72
Fallbrook	STAGE COACH	BROOKE	KNOLLWOOD	Light Collector	Town Collector	0.61
Fallbrook	STAGE COACH	KNOLLWOOD	MORRO	Town Collector	Collector	0.48

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CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Fallbrook	STAGE COACH	MORRO	MISSION	Town Collector	Collector	0.48
Jamul-Dulzura	JAMUL	TUK A WILE	YUCCA	Light Collector	Town Collector	1.04
Jamul-Dulzura	JAMUL	YUCCA	LYONS VALLEY	Light Collector	Town Collector	0.08
Jamul-Dulzura	JEFFERSON	OLIVE VISTA	SR-94	Light Collector	Town Collector	0.18
Jamul-Dulzura	LYONS VALLEY	JEFFERSON	RESERVOIR	Light Collector	Collector	0.39
Jamul-Dulzura	LYONS VALLEY	RESERVOIR	JAMUL	Light Collector	Collector	0.36
Jamul-Dulzura	LYONS VALLEY	JAMUL	RIO GRANDE	Light Collector	Collector	0.85
Jamul-Dulzura	LYONS VALLEY	RIO GRANDE	PLEASANT VIEW	Light Collector	Collector	0.70
Jamul-Dulzura	PROCTOR VALLEY	MELODY	CALLE BUENO GANA	Light Collector	Town Collector	0.11
Jamul-Dulzura	PROCTOR VALLEY	CALLE BUENO GANA	SCHLEE CANYON	Light Collector	Town Collector	0.41
Jamul-Dulzura	PROCTOR VALLEY	SCHLEE CANYON	MAXFIELD	Light Collector	Collector	0.52
Jamul-Dulzura	PROCTOR VALLEY	MAXFIELD	JEFFERSON	Light Collector	Collector	0.38
Lakeside	ASHWOOD	WILLOW	MAPLEVIEW	Light Collector	Collector	2.23
Lakeside	EL NOPAL	FUTURE N/S MASS	MARJEAN	Light Collector	Town Collector	0.33
Lakeside	EL NOPAL	MARJEAN	RIVERFORD	Light Collector	Collector	0.22
Lakeside	I-8 BUSINESS / MAIN	JACKSON HILL	LAVALA	Light Collector	Collector	1.01
		.31 MILES SOUTH OF KAY JAY / MOBILE HOME PARK				
Lakeside	I-8 BUSINESS / MAIN	ENTRANCE	LOS COCHES/CM CA	Light Collector	Collector	0.81
Lakeside	JULIAN	CACTUS	LOS COCHES/MAINE	Light Collector	Town Collector	0.18
Lakeside	JULIAN	PINO	LAKEVIEW	Light Collector	Town Collector	0.16
Lakeside	LAKE JENNINGS PA	EL MONTE	BASS	Light Collector	Collector	1.00
Lakeside	LAKE JENNINGS PA	BASS	PINKARD	Light Collector	Collector	1.74
Lakeside	LAKE JENNINGS PA	PINKARD	HARRITT	Light Collector	Collector	0.20
Lakeside	LAKE JENNINGS PA	RAMP I-8 WB	RAMP I-8 WB	Light Collector	Collector	0.06
Lakeside	LAKESIDE	RIVERSIDE	CHANNEL	Town Collector	Collector	0.42
Lakeside	LOS COCHES	JULIAN	DEL SOL	Town Collector	Collector	0.94
Lakeside	LOS COCHES	DEL SOL	LOS COCHES CT	Town Collector	Collector	1.01
Lakeside	LOS COCHES	LOS COCHES CT	BOWER	Town Collector	Collector	0.76
Lakeside	MAPLEVIEW	CHANNEL	SR-67	Light Collector	Collector	0.42
Lakeside	MAPLEVIEW	MAINE	VINE	Town Collector	Prime Arterial	0.11
Lakeside	OLDE 80	RIDGE HILL	PECAN PARK	Light Collector		0.07

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CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Lakeside	OLDE 80	PECAN PARK / SIERRA ALTA	PECAN PARK	Light Collector	Collector	0.61
Lakeside	OLDE 80	PECAN PARK	BOND	Light Collector	Collector	0.30
Lakeside	PEPPER	02ND/WINTER GARD	PEERLESS	Light Collector	Town Collector	0.25
Lakeside	RIVERFORD	EL NOPAL	RIVERSIDE/MAST	Light Collector	Collector	0.16
Lakeside	RIVERFORD	RIVERSIDE/MAST	WOODSIDE(N)	Town Collector	Major	0.63
Lakeside	RIVERFORD	WOODSIDE(N)	RAMP SR-67 SB	Light Collector	Collector	0.08
Lakeside	RIVERFORD	RAMP SR-67 SB	WOODSIDE SOUTH	Light Collector	Collector	0.18
Lakeside	RIVERSIDE	RIVERFORD	PALM ROW	Town Collector	Collector	0.56
Lakeside	RIVERSIDE	PALM ROW	VISTA CAMINO	Town Collector	Collector	0.42
Lakeside	RIVERSIDE	VISTA CAMINO	NEW BEDFORD	Town Collector	Collector	0.21
Lakeside	SIERRA ALTA	RAMP I-8 EB	OLDE 80	Light Collector	Collector	0.07
Lakeside	SIERRA ALTA	LAKE JENNINGS PA	RAMP I-8 EB	Light Collector	Collector	0.06
Lakeside	VALLE VISTA	VISTA CAMINO	PAGOSA	Light Collector	Town Collector	0.38
Lakeside	VALLE VISTA	PAGOSA	RIVERSIDE	Light Collector	Town Collector	0.41
Lakeside	WILLOW	SR-67	MORENO	Light Collector	Town Collector	0.25
Lakeside	WILLOW	MORENO	FILLBROOK	Light Collector	Town Collector	0.29
Lakeside	WILLOW	FILLBROOK	WILDCAT CANYON	Light Collector	Town Collector	0.36
Lakeside	WOODSIDE	NB OFF RAMP	RIVERFORD	Light Collector	Collector	0.13
Lakeside	WOODSIDE	MARILLA	RIVERVIEW	Light Collector	Collector	0.42
Lakeside	WOODSIDE	RIVERVIEW	WINTER GARDENS	Light Collector	Town Collector	0.35
North County Metro	17TH	LENDEE	SAN PASQUAL VALL	Light Collector	Collector	0.44
North County Metro	BUENA CREEK / SOUTH SANTA FE	SOUTH SANTA FE	SYCAMORE	Light Collector	Collector	0.04
North County Metro	BUENA CREEK	SYCAMORE	HARTWRIGHT	Light Collector	Collector	0.06
North County Metro	BUENA CREEK	HARTWRIGHT	HIDDEN OAK	Light Collector	Collector	1.40
North County Metro	BUENA CREEK	HIDDEN OAK	LONE OAK	Light Collector	Collector	0.33
North County Metro	BUENA CREEK	LONE OAK	MONTE VISTA	Light Collector	Collector	0.50
North County Metro	BUENA CREEK	MONTE VISTA	SUGARBUSH	Light Collector	Collector	1.21
North County Metro	BUENA CREEK	SUGARBUSH	HOLLYBERRY	Light Collector	Collector	0.17
North County Metro	BUENA CREEK	HOLLYBERRY	FREDAS HILL	Light Collector	Town Collector	0.28
North County Metro	BUENA CREEK	FREDAS HILL	BLUE BIRD CANYON	Light Collector	Town Collector	0.50
North County Metro	BUENA CREEK	BLUE BIRD CANYON	TAMARA	Light Collector	Town Collector	0.43
North County Metro	CAMINO DEL ARROYO	CAMINO LINDA DRIVE	RANCHO SANTA FE	Light Collector	Town Collector	0.06

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CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
North County Metro	CHAMPAGNE	WELK VIEW	LAWRENCE WELK	Light Collector	Collector	0.74
North County Metro	CHAMPAGNE	LAWRENCE	MOUNTAIN MEADOW	Light Collector	Collector	3.62
North County Metro	DEER SPRINGS	MULBERRY	MARILYN	Light Collector	Collector	0.33
North County Metro	DEER SPRINGS	SARVER	MESA ROCK	Light Collector	Prime Arterial	5.79
North County Metro	DEER SPRINGS	MESA ROCK	MOUNTAIN MEADOW	Light Collector	Prime Arterial	0.21
North County Metro	DEL DIOS	COUNTRY CLUB	ELM	Light Collector	Collector	0.74
North County Metro	HARMONY GROVE	WILGEN	CPA BOUNDARY	Light Collector	Town Collector	1.66
North County Metro	HARMONY GROVE	COUNTRY CLUB	WILGEN	Light Collector	Town Collector	0.39
North County Metro	HOLLYBERRY	BUENA CREEK	SALEM	Light Collector	Collector	0.48
North County Metro	N CENTRE CITY	MOUNTAIN MEADOW	JESMOND DENE	Light Collector	Town Collector	0.58
North County Metro	N CENTRE CITY	JESMOND DENE	MESA ROCK	Light Collector	Collector	2.51
North County Metro	N CENTRE CITY	MESA ROCK	IVY DELL	Light Collector	Collector	0.71
North County Metro	N CENTRE CITY	IVY DELL	CENTRE CITY	Light Collector	Collector	0.58
North County Metro	ROCK SPRING	.005 WEST OF BENNETT / ROCK SPRING INTERSECTION	BENNETT	Light Collector	Collector	0.01
North County Metro	ROCK SPRING	MONTIEL	SEVEN OAKES	Light Collector	Town Collector	0.05
North County Metro	SALEM	HOLLYBERRY	EMMA	Light Collector	Collector	1.00
North County Metro	SOUTH SANTA FE	WOODLAND	ROBELINI	Major	Prime Arterial	0.56
North County Metro	SYCAMORE	BUENA CREEK	ROBELINI	Major	Prime Arterial	0.50
North County Metro	SYCAMORE	RAMP SR-78 WB	RAMP SR-78 EB	Prime Arterial	8L Prime	0.09
North County Metro	VALLEY CENTER	NORTH COUNTY CPA BOUNDARY	VALLEY CENTER CPA BOUNDARY	Major	Prime Arterial	0.09
North County Metro	VIA RANCHO	VISTA DE LA CRESTA	VIA LOMA VISTA	Light Collector	Town Collector	0.57
North County Metro	VIA RANCHO	VIA LOMA VISTA	FELICITA	Light Collector	Collector	1.49
North County Metro	SAN PASQUAL ROAD	VIENTO VALLE	VIA SOL	Light Collector	Collector	2.15
Otay	AIRWAY	FARADAY	ENRICO FERMI	Light Collector	Collector	0.48
Otay	ALTA	DONOVAN STATE PRISON	CALZADA DE LA FUENTE	Light Collector	Collector	0.95
Otay	ALTA	PASEO DE LA FUENTE	CALZADA DE LA FUENTE	Light Collector	Prime Arterial	0.93
Otay	ALTA	OTAY MESA	PASEO DE LA FUENTE	Light Collector	Prime Arterial	0.83
Otay	ENRICO FERMI	OTAY MESA	RAMP SR-11 WB	Major	Prime Arterial	0.40

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CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Otay	ENRICO FERMI	RAMP SR-11 WB	RAMP SR-11 EB	Major	Prime Arterial	0.18
Otay	ENRICO FERMI	RAMP SR-11 EB	AIRWAY	Major	Prime Arterial	0.65
Otay	ENRICO FERMI	AIRWAY	SIEMPRE VIVA	Light Collector	Prime Arterial	0.90
Otay	HARVEST	LONESTAR	OTAY MESA	Light Collector	Prime Arterial	2.93
Otay	LONESTAR	PIPER RANCH	HARVEST	Light Collector	Prime Arterial	2.31
Otay	OTAY LAKES	WUESTE	LOWER OTAY LAKE	Light Collector	Prime Arterial	1.21
Otay	OTAY LAKES	LOWER OTAY LAKE	CAMPO RD	Light Collector	Town Collector	3.29
Otay	OTAY MESA	PASEO DE LAS AMERICA	FARADAY	Major	Prime Arterial	1.58
Otay	OTAY MESA	FARADAY	ENRICO FERMI	Major	Prime Arterial	0.92
Otay	OTAY MESA	ENRICO FERMI	ALTA	Major	Prime Arterial	5.14
Pala-Pauma	VALLEY CENTER	PALA/SR-76	GOLSH	Town Collector	Collector	1.76
Pendleton-De Luz	BASILONE	RAMP I-5 SB	RAMP I-5 NB	Light Collector	Collector	0.19
Pendleton-De Luz	COAST	SAN DIEGO / I5 RAMP	MONTEREY	Light Collector	Collector	0.13
Pendleton-De Luz	SAN DIEGO / I5 RAMP	RAMP	RAMP	Light Collector	Prime Arterial	0.13
Pendleton-De Luz	SAN DIEGO / I5 RAMP	RAMP	RAMP	Light Collector	Prime Arterial	0.65
Pendleton-De Luz	VANDEGRIFT	WIRE MTN/MAIN GA	RAMP I-5 NB	Major	8L Prime	0.93
Pepper Drive-Bosto	BRADLEY	GRAVES	STONE EDGE CIRC	Light Collector	Collector	0.40
Pepper Drive-Bosto	BRADLEY	STONE EDGE	SAM HILL	Light Collector	Collector	0.23
Pepper Drive-Bosto	BRADLEY	SAM HILL	BERRY DALE	Light Collector	Collector	0.21
Pepper Drive-Bosto	BRADLEY	SUMMER PLACE	01ST	Light Collector	Town Collector	0.12
Pepper Drive-Bosto	GRAVES	PEPPER	GRAVES CT	Light Collector	Town Collector	0.14
Pepper Drive-Bosto	GREENFIELD	VERNON	GRAVES	Light Collector	Collector	0.86
Pepper Drive-Bosto	GREENFIELD	DENVER	DIAMOND	Light Collector	Collector	0.27
Pepper Drive-Bosto	GREENFIELD	DIAMOND	01ST	Light Collector	Collector	0.27
Pepper Drive-Bosto	GREENFIELD	01ST	ORO	Light Collector	Town Collector	0.26
Pepper Drive-Bosto	GREENFIELD	ORO	02ND	Light Collector	Town Collector	0.21
Pepper Drive-Bosto	MAGNOLIA	BRADLEY	CYPRESS	Light Collector	Collector	0.31
Pepper Drive-Bosto	MAGNOLIA	CYPRESS	VERNON	Light Collector	Collector	0.63
Pepper Drive-Bosto	PEERLESS	LILY	GREENFIELD	Light Collector	Town Collector	0.13
Pepper Drive-Bosto	PEPPER	TETON	VULCAN	Light Collector	Town Collector	0.05
Pepper Drive-Bosto	PEPPER	GARYWOOD/MARLIND	BATES	Light Collector	Town Collector	0.14
Pepper Drive-Bosto	PEPPER	BATES	MOLLISON	Light Collector	Collector	0.30
Pepper Drive-Bosto	PEPPER	MOLLISON	PEPPER VILLA	Light Collector	Town Collector	0.07

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CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Pepper Drive-Bosto	PEPPER	PEPPER VILLA	01ST	Light Collector	Town Collector	0.25
Pepper Drive-Bosto	PEPPER	SOMER LANE	02ND/WINTER GARD	Light Collector	Town Collector	0.24
Rainbow	OLD 395	RAINBOW VALLEY	MISSION	Light Collector	Collector	1.71
Rainbow	OLD 395	RAINBOW GLEN	RAINBOW VALLEY	Light Collector	Collector	0.64
Rainbow	OLD 395	05TH	RAINBOW GLEN	Light Collector	Collector	1.14
Rainbow	OLD 395	02ND	05TH	Light Collector	Town Collector	0.29
Rainbow	RAINBOW VALLEY W	RAMP	OLD 395	Light Collector	Town Collector	0.04
Ramona	MONTECITO	DAVIS	RAMONA	Light Collector	Town Collector	0.39
Ramona	OLIVE	MAPLE	PINE	Light Collector	Collector	0.50
Ramona	OLIVE	PINE	ELM	Light Collector	Town Collector	0.29
Ramona	RAMONA	RAYMOND	MAIN	Light Collector	Town Collector	0.14
Ramona	RAMONA	ROWLEY	HANSON LANE	Light Collector	Town Collector	0.07
Ramona	SAN VICENTE	H STREET	BARGER	Town Collector	Collector	0.94
Ramona	SAN VICENTE	HANSON	JAY BIRD	Town Collector	Collector	0.51
Ramona	SAN VICENTE	JAY BIRD	CREELMAN	Town Collector	Collector	0.49
Ramona	SAN VICENTE	KEYES	DYE	Light Collector	Collector	0.14
Ramona	SAN VICENTE	DYE	BUNNIE KING	Light Collector	Collector	0.58
Ramona	SAN VICENTE	BUNNIE KING	CHUCKWAGON	Light Collector	Collector	2.57
Ramona	SAN VICENTE	CHUCKWAGON	WILDCAT CANYON	Light Collector	Collector	0.41
Ramona	WILDCAT CANYON	SAN VICENTE	LITTLE KLONDIKE	Light Collector	Collector	0.75
Ramona	WILDCAT CANYON	LITTLE KLONDIKE	SAN VINCENTE OAK	Light Collector	Town Collector	2.19
San Dieguito	CAM DEL NORTE	4S RANCH PARKWAY	RAMP	Light Collector	Prime Arterial	1.24
San Dieguito	DEL DIOS	RANCHO DEL RIO	LUNA DE MIEL	Light Collector	Collector	0.92
San Dieguito	EL APAJO	VIA DE SANTA FE	SAN DIEGUITO	Light Collector	Town Collector	0.57
San Dieguito	ELFIN FOREST	ELFIN OAKS	HARMONY GROVE	Light Collector	Collector	2.74
San Dieguito	HARMONY GROVE	CRESTWIND/WILGEN	QUESTHAVEN	Light Collector	Town Collector	1.16
San Dieguito	BAJADA	EL MIRLO	LA NORIA	Light Collector	Collector	0.57
San Dieguito	PASEO DELICIAS	LA FREMONTIA	VIA DE LA VALLE	Light Collector	Major	0.10
San Dieguito	RANCHO BERNARDO	CAM SAN BERNARDO	ALVA / CPA BOUNDARY	Major	Prime Arterial	0.57
San Dieguito	RANCHO SANTA FE	CPA BOUNDARY	EL MIRLO	Light Collector	Collector	0.33
San Dieguito	CAMINO DEL NORTE	4S RANCH PARKWAY	BLACK MOUNTAIN	Light Collector	Collector	0.51
San Dieguito	SAN DIEGUITO	WINLAND HILLS	CAM SANTA FE	Light Collector	Town Collector	0.74
San Dieguito	SAN DIEGUITO	RANCHO DIEGUENO	WINDLAND HILLS	Light Collector	Collector	0.66
San Dieguito	SAN DIEGUITO	CALLE DEL NIDO	RANCHO DIEGUENO	Light Collector	Town Collector	0.53

Appendix C
TIF Improvement Facilities

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CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
San Dieguito	SAN DIEGUITO	EL APAJO	CALLE DEL NIDO	Light Collector	Town Collector	0.08
San Dieguito	SAN DIEGUITO	VIA DOS VALLES	EL APAJO	Light Collector	Collector	1.48
San Dieguito	SAN DIEGUITO	SAN DIEGO CL / CPA BOUNDARY	VIA DOS VALLES	Light Collector	Collector	1.70
San Dieguito	SAN ELIJO RD	FALL VIEW	HIDDEN CANYON	Major	Prime Arterial	0.50
San Dieguito	VIA DE LA VALLE	PASEO DELICIAS	LAS COLINAS	Light Collector	Collector	0.05
San Dieguito	VIA DE LA VALLE	LAS COLINAS	VIA DE SANTA FE	Light Collector	Collector	1.12
San Dieguito	VIA DE LA VALLE	VIA DE SANTA FE	LA GRACIA	Light Collector	Collector	0.79
San Dieguito	VIA DE LA VALLE	LA GRACIA	CALZADA DEL BOSQ	Light Collector	Town Collector	0.49
San Dieguito	VIA DE SANTA FE	VIA DE LA VALLE	CALZADA DEL BOSQ	Light Collector	Town Collector	0.65
San Dieguito	VIA DE SANTA FE	CALZADA DEL BOSQ	EL APAJO	Light Collector	Collector	0.83
Spring Valley	APPLE	GRAND AVE	RAMONA	Light Collector	Town Collector	0.15
Spring Valley	APPLE	RAMONA	MAYA	Light Collector	Town Collector	0.26
Spring Valley	JAMACHA ROAD	RAMP SR-125 HOV	RAMP SR-125 NB	Major	Prime Arterial	0.18
Spring Valley	JAMACHA ROAD	RAMP SR-125 NB	SWEETWATER	Major	Prime Arterial	0.15
Spring Valley	KENWOOD	DALE	RAMP SR-94 EB	Light Collector	Town Collector	0.03
Spring Valley	PARADISE VALLEY	ELKELTON	RAMP SR-125 SB	Major	Prime Arterial	0.15
Spring Valley	PARADISE VALLEY	RAMP SR-125 SB	RAMP SR-125 NB	Major	Prime Arterial	0.29
Spring Valley	PARADISE VALLEY	RAMP SR-125 NB	SWEETWATER-NEW	Major	Prime Arterial	0.07
Spring Valley	TROY	SWEET WATER	CENTRAL	Light Collector	Collector	0.49
Spring Valley	TROY	CENTRAL	BANCROFT	Light Collector	Collector	0.43
Sweetwater	BRIARWOOD	RAMP SR-54 EB	ROBINWOOD	Light Collector	Collector	0.10
Sweetwater	SWEETWATER	VALLEY	WILLOW	Light Collector	Town Collector	0.32
Sweetwater	SWEETWATER	BRIARWOOD	BONITA WOODS	Light Collector	Collector	0.81
Valle De Oro	BANCROFT	CAMPO	RAMP SR-94 WB	Light Collector	Town Collector	0.04
Valle De Oro	FUERTE	GROSSMONT SUMMIT	GROSSMONT	Light Collector	Town Collector	0.02
Valle De Oro	FUERTE	GROSSMONT	SIERRA VISTA	Light Collector	Town Collector	0.20
Valle De Oro	FUERTE	SIERRA VISTA	SUMMIT	Light Collector	Town Collector	0.31
Valle De Oro	FUERTE	SUMMIT	PANDORA	Light Collector	Town Collector	0.31
Valle De Oro	FUERTE	PANDORA	LEMON	Light Collector	Town Collector	0.10
Valle De Oro	HILLSDALE	CHASE	WIND RIVER	Light Collector	Town Collector	0.16
Valle De Oro	JAMUL	STEELE CANYON	IVANHOE RANCH	Light Collector	Collector	0.35
Valle De Oro	JAMUL	IVANHOE RANCH	COTTONWOOD SPRIN	Light Collector	Collector	0.95
Valle De Oro	JAMUL	COTTONWOOD SPRIN	TUK A WILE	Light Collector	Town Collector	1.34

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Appendix C
TIF Improvement Facilities

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CPA	Name	From Cross Street	To Cross Street	Existing Classification	Required Classification	Additional Lane Miles Required
Valle De Oro	STEELE CANYON	WILLOW GLEN	JAMUL	Light Collector	Collector	1.00
Valle De Oro	STEELE CANYON	JAMUL	OLD CALIFORNIA	Light Collector	Town Collector	0.19
Valle De Oro	WILLOW GLEN	HILLSDALE	STEELE CANYON	Light Collector	Town Collector	0.81
Valley Center	CHAMPAGNE	OLD 395	OLD CASTLE	Light Collector	Collector	0.32
Valley Center	CHAMPAGNE	OLD CASTLE	CPA BOUNDARY	Light Collector	Collector	1.93
Valley Center	COLE GRADE	VIA VALENCIA	FRUITVALE	Town Collector	Collector	1.36
Valley Center	COLE GRADE	FRUITVALE	1003 ft NORTH OF VALLEY CENTER	Town Collector	Collector	0.96
Valley Center	COLE GRADE	1003 ft NORTH OF VALLEY CENTER	VALLEY CENTER	Town Collector	Major	0.38
Valley Center	LILAC	WEST LILAC	LILAC HILL	Light Collector	Town Collector	0.26
Valley Center	LILAC	LILAC HILL	OLD CASTLE	Light Collector	Town Collector	1.27
Valley Center	LILAC	OLD CASTLE	ROBLE VERDE	Light Collector	Collector	1.27
Valley Center	LILAC	ROBLE VERDE	ANTHONY	Light Collector	Collector	2.02
Valley Center	LILAC	ANTHONY	BETSWORTH	Light Collector	Collector	2.80
Valley Center	LILAC	BETSWORTH	VALLEY CENTER	Light Collector	Collector	0.58
Valley Center	MIRAR DE VALLE	RED IRON BARK	RANCHO VISTA	Light Collector	Town Collector	0.26
Valley Center	OLD 395	CAM DEL REY	CIRCLE R	Light Collector	Collector	1.65
Valley Center	OLD 395	CIRCLE R	GOPHER CANYON	Light Collector	Collector	0.30
Valley Center	OLD CASTLE	CHAMPAGNE	PRIVATE ROAD e/o QUEEN ANN	Light Collector	Collector	3.44
Valley Center	OLD CASTLE	PRIVATE ROAD e/o QUEEN ANN	AIRFLIGHT	Light Collector	Town Collector	2.21
Valley Center	VALLEY CENTER	VESPER	COLE GRADE	Light Collector	Collector	0.43
Valley Center	VALLEY CENTER	COLE GRADE	MILLER	Major	Prime Arterial	1.04
Valley Center	VALLEY CENTER	MILLER	CHAPARREL	Major	Prime Arterial	0.94
Valley Center	VALLEY CENTER	CHAPARREL	LILAC	Major	Prime Arterial	0.59
Valley Center	VALLEY CENTER	SUNDAY	CHARLAN	Major	Prime Arterial	0.94
Valley Center	VALLEY CENTER	CHARLAN	WOODS VALLEY	Major	Prime Arterial	0.56
Valley Center	VALLEY CENTER	WOODS VALLEY	BANBURY	Major	Prime Arterial	0.29
Valley Center	VALLEY CENTER	CPA BOUNDARY	ESCONDIDO CL	Major	Prime Arterial	2.09

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Appendix C
State Improvement Facilities

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CPA	Name	From	To	Lanes	Additional Lane Miles Required
Bonsall	MISSION	CPA BOUNDARY	.045 MILES WEST OF MISSION / PALA	2	13.66
Bonsall	MISSION	.045 WEST OF MISSION/PALA	.045 EAST OF MISSION / PALA	4	0.36
Bonsall	PALA	.045 EAST OF MISSION / PALA	CPA BOUNDARY	2	2.55
Central Mountain	SR-78	RAMONA CPA - WEST OF CENTRAL MOUNTAIN	RAMONA CPA - EAST OF CENTRAL MOUNTAIN	2	0.42
Fallbrook	PALA	CPA BOUNDARY	COUSER CANYON ROAD	2	12.44
Jamul-Dulzura	CAMPO	.175 Miles after CPA BOUNDARY / COUGAR CANYON ROAD	.29 Miles after CPA BOUNDARY / COUGAR CANYON ROAD	2	0.58
Jamul-Dulzura	CAMPO	2.195 Miles after CPA BOUNDARY / COUGAR CANYON ROAD	STONEY OAK ROAD	2	10.73
Lakeside	SR-67	.2 miles South of SCRIPPS POWAY PARKWAY	.8 Miles South of FOSTER TRUCK TRAIL - Lanes change from 3 to 4	2	2.23
Lakeside	SR-67	SCRIPPS POWAY PARKWAY	.2 Miles South of SCRIPPS POWAY PARKWAY	2	0.23
Lakeside	SR-67	CPA BOUNDARY	SCRIPPS POWAY PARKWAY	2	1.26
Lakeside	SR-67	VINE STREET ENTRANCE	MAPLEVIEW	3	0.92
Lakeside	SR-67	MAPLE VIEW	START OF SR. 67	4	0.07
Mountain Empire	TECATE	SR-94	HUMPHRIES ROAD	2	2.93
North County Metro	SAN PASQUAL VALLEY			2	0.16
North County Metro	SAN PASQUAL VALLEY	BEAR VALLEY	.12 AFTER OLD SAN PASQUAL ROAD	2	2.24
North County Metro	SR-78	SYCAMORE (SEGMENT ON MAP)	SMILAX / CPA BOUNDARY	2	1.52
North Mountain	JULIAN / SR - 67	CPA BOUNDARY	SR-79	2	7.92
Pala-Pauma	SR-76	RED GATE ROAD (West Side)	CALLE EL POTRERO	2	2.50
Ramona	JULIAN / SR - 67	CPA BOUNDARY	MUSSEY GRADE	2	8.90
Ramona	JULIAN / SR - 67	OLD JULIAN	RAMONA CPA - WEST OF CENTRAL MOUNTAIN	2	3.43
Ramona	JULIAN / SR - 67 / MAIN	10 TH	8TH	4	0.72
Ramona	SR-78	CPA BOUNDARY	HAVER FORD	2	3.85

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APPENDIX D – LOS MAPS

**APPENDIX E – CONVERSION OF NON-
RESIDENTIAL RATES TO COST PER SQUARE
FOOT**

Conversion of Nonresidential Rates to Cost per Square Foot

The cost per square foot conversion is based on the following methodology. An example is shown in the table below with an estimated cost per trip of \$611. This same methodology is applied in all 23 Community Plan Areas for the applicable cost per trip in each area. The trips per acre (as described in the 2008 Update) multiplied by the cost per trip is used to determine the cost for an acre. The floor area ratio (FAR) is then applied to that acre of land to determine the building square feet. The cost per square foot is then equal to the cost for the acre of land divided by the estimated building square feet (as based on the estimated FAR). In general, except for a furniture store and storage/warehouse, each general commercial project pays at the same rate per square foot, each general industrial project pays at the same rate per square foot, each office project pays at the same rate per square foot and each school pays at the same rate per square foot.

SAMPLE CALCULATION using \$611 per trip						
	FAR ¹	Trips/ac	Cost/trip	Cost/ac	Bldg sf/ac	Cost/sf
Commercial						
General Commercial	0.23	360	\$ 611	\$ 219,960	10,019	\$ 21.95
Furniture Store	0.38	85	\$ -	\$ 51,935	16,553	\$ 3.14
Industrial						
General Industrial	0.26	150	\$ 611	\$ 91,650	11,326	\$ 8.09
Storage/Warehouse - Warehouse	0.28	60	\$ 611	\$ 36,660	12,197	\$ 3.01
Office						
Office	0.34	300	\$ 611	\$ 183,300	14,810	\$ 12.38
Schools						
Schools	0.1	50	\$ 611	\$ 30,550	4356	\$ 7.01
1 FARs based on SANDAG Trip Generation Table.						
General Commercial FAR = 400trips/43560 sf x 1000 sf/40trips= .23						
Furniture Store FAR = 100 trips/43560 sf x 1000 sf/6 trips = .38						
General Industrial FAR = 90 trips/43560 sf x 1000 sf/ 8 trips = .26						
Storage/Warehouse FAR = 60 trips/43560 sf x 1000/ 5 trips = .28						
Office FAR = 300 trips/43560 sf x 1000/20 trips = .34						
Schools FAR = 50 trips/43560 sf x 1000/12 trips = .10						

APPENDIX D thru APPENDIX R

For

***The Otay Crossings Commerce Park
(TM 5405RPL7, ER 93-19-006Q)***

Prepared For: The County of San Diego

Submitted To:

*Kearny PCCP Otay 311, LLC
655 West Broadway, Suite 1600
San Diego, CA 92101*

Prepared By:

*Bill E. Darnell
(RCE 22338)*

*Darnell & Associates, Inc.
1446 Front Street, Suite 300
San Diego, CA 92101*



*Signature: Bill E. Darnell
Date Signed: 5-6-2010*

Revised: May 6, 2010

Revised: April 20, 2010

Revised: October 15, 2009

Revised: April 29, 2009

Revised: October 23, 2008

Revised: September 5, 2008

Revised: September 13, 2007

Revised: December 14, 2006

Revised: July 24, 2006

Revised: May 25, 2006

Revised: June 28, 2005

Original: October 20, 2004

Volume II of II

APPENDIX D

- Existing Conditions Arterial Synchro Analysis Worksheets
- Existing Conditions Intersection Synchro Analysis Worksheets
 - Existing ILV Analysis

Existing Conditions Arterial Synchro Analysis Worksheets

Arterial Level of Service: EB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Heritage Road	II	45	28.4	18.7	47.1	0.27	20.9	D
Cactus Rd	II	45	44.7	7.0	51.7	0.51	35.3	A
Brittania Blvd	II	45	45.5	12.4	57.9	0.52	32.1	B
La Media	II	45	83.0	4.7	87.7	1.04	42.6	A
Piper Ranch Rd	II	45	44.3	2.8	47.1	0.50	38.5	A
	II	45	29.4	2.1	31.5	0.30	34.0	B
SR125 NB Ramp	II	45	13.4	0.2	13.6	0.12	32.6	B
SR905	II	45	11.1	3.7	14.8	0.10	24.9	C
Sanyo Ave	II	45	27.4	1.5	28.9	0.26	32.9	B
Enrico Fermi Dr	II	45	62.8	11.0	73.8	0.78	38.3	A
Total	II		390.0	64.1	454.1	4.41	35.0	B

Arterial Level of Service: WB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Enrico Fermi Dr	II	45	43.2	3.9	47.1	0.49	37.5	A
Sanyo Ave	II	45	62.8	1.4	64.2	0.78	44.0	A
SR905	II	45	27.4	7.4	34.8	0.26	27.3	C
SR125 NB Ramp	II	45	11.1	0.4	11.5	0.10	32.0	B
SR125 SB	II	45	13.4	10.3	23.7	0.12	18.7	D
Piper Ranch Rd	II	45	29.4	6.9	36.3	0.30	29.5	B
La Media	II	45	44.3	10.7	55.0	0.50	33.0	B
Brittania Blvd	II	45	83.0	2.8	85.8	1.04	43.6	A
Cactus Rd	II	45	45.5	2.3	47.8	0.52	38.9	A
Heritage Road	II	45	44.7	13.8	58.5	0.51	31.2	B
Total	II		404.8	59.9	464.7	4.63	35.9	A

Arterial Level of Service: EB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Heritage Road	II	45	28.4	19.5	47.9	0.27	20.5	D
Cactus Rd	II	45	44.7	17.6	62.3	0.51	29.3	B
Brittania Blvd	II	45	45.5	6.1	51.6	0.52	36.1	A
La Media	II	45	83.0	22.5	105.5	1.04	35.4	A
Piper Ranch Rd	II	45	43.9	3.2	47.1	0.50	38.1	A
	II	45	29.9	0.5	30.4	0.30	35.8	A
SR125 NB Ramp	II	45	13.4	0.0	13.4	0.12	33.1	B
SR-905	II	45	11.1	7.8	18.9	0.10	19.5	D
Sanyo Ave	II	45	27.5	1.1	28.6	0.26	33.3	B
Enrico Fermi Dr	II	45	62.7	6.7	69.4	0.78	40.7	A
Total	II		390.1	85.0	475.1	4.41	33.4	B

Arterial Level of Service: WB Otay Mesa Road

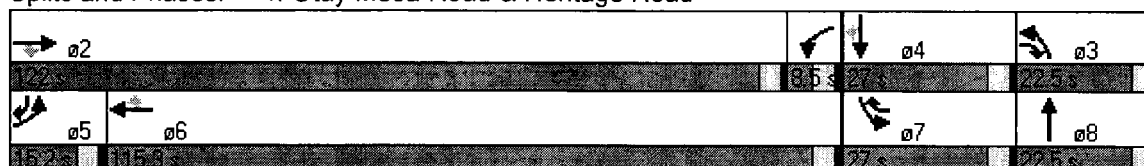
Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Enrico Fermi Dr	II	45	43.2	9.0	52.2	0.49	33.9	B
Sanyo Ave	II	45	62.7	4.7	67.4	0.78	41.9	A
SR-905	II	45	27.5	20.2	47.7	0.26	19.9	D
SR125 NB Ramp	II	45	11.1	3.5	14.6	0.10	25.2	C
SR125 SB	II	45	13.4	0.9	14.3	0.12	31.0	B
Piper Ranch Rd	II	45	29.9	1.9	31.8	0.30	34.2	B
La Media	II	45	43.9	19.6	63.5	0.50	28.3	B
Brittania Blvd	II	45	83.0	11.9	94.9	1.04	39.4	A
Cactus Rd	II	45	45.5	3.2	48.7	0.52	38.2	A
Heritage Road	II	45	44.7	30.2	74.9	0.51	24.4	C
Total	II		404.9	105.1	510.0	4.63	32.7	B

























Existing Conditions Intersection Synchro Analysis Worksheets

Intersection Summary

Analysis Period (min) 15

Splits and Phases: 1: Otay Mesa Road & Heritage Road















												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Fr			0.850			0.850		0.920				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4803	1583	3433	4803	1583	1770	1714	0	1770	1863	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4803	1583	3433	4803	1583	1770	1714	0	1770	1863	2787
Satd. Flow (RTOR)			157			226		25				107
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	189	1357	152	46	1840	219	133	58	66	217	65	220
Adj. Flow (vph)	195	1399	157	47	1897	226	137	60	68	224	67	227
Lane Group Flow (vph)	195	1399	157	47	1897	226	137	128	0	224	67	227
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot			Prot		pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases			2			6						4
Total Split (s)	16.0	117.4	27.4	11.1	112.5	31.0	27.4	20.5	0.0	31.0	24.1	16.0
Act Effct Green (s)	11.4	63.9	87.9	7.0	56.4	76.9	22.7	12.4		20.6	10.3	21.7
Actuated g/C Ratio	0.10	0.54	0.75	0.06	0.48	0.65	0.19	0.11		0.17	0.09	0.18
v/c Ratio	0.59	0.54	0.13	0.23	0.83	0.20	0.40	0.63		0.72	0.41	0.38
Control Delay	64.3	19.5	0.6	65.4	30.2	0.9	49.7	60.0		64.1	66.4	16.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	64.3	19.5	0.6	65.4	30.2	0.9	49.7	60.0		64.1	66.4	16.3
LOS	E	B	A	E	C	A	D	E		E	E	B
Approach Delay		22.8			27.9			54.7			43.4	
Approach LOS		C			C			D			D	

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 117.9
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 29.2
Intersection Capacity Utilization 73.4%
Analysis Period (min) 15

Intersection LOS: C
ICU Level of Service D

Splits and Phases: 1: Otay Mesa Road & Heritage Road

					
ø1	ø2		ø4	ø3	
16 s	112.5 s		22.7 s	27.4 s	
					
ø5	ø6		ø8	ø7	
16 s	112.5 s		20.5 s	31 s	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SEL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.999				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4794	0	1770	4799	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4794	0	1770	4799	0	1770	1863	1583	1770	1863	1583
Satd. Flow (RTOR)		4			1				31			142
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	8	2726	58	53	1104	5	22	1	98	3	0	5
Adj. Flow (vph)	9	2996	64	58	1213	5	24	1	108	3	0	5
Lane Group Flow (vph)	9	3060	0	58	1218	0	24	1	108	3	0	5
Turn Type	Prot			Prot			Prot					
Protected Phases	5	2		1	6		3		1	7	4	5
Permitted Phases												
Total Split (s)	8.5	134.5	0.0	15.0	141.0	0.0	10.0	22.0	15.0	3.5	20.5	8.5
Act Effct Green (s)	7.0	151.8		12.4	162.7		7.9	6.2	18.5	4.8		7.0
Actuated g/C Ratio	0.04	0.84		0.07	0.90		0.04	0.03	0.10	0.03		0.04
v/c Ratio	0.13	0.76		0.48	0.28		0.31	0.02	0.57	0.06		0.03
Control Delay	95.0	7.0		92.8	2.3		92.4	84.0	64.2	88.7		0.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Total Delay	95.0	7.0		92.8	2.3		92.4	84.0	64.2	88.7		0.2
LOS	F	A		F	A		F	F	E			A
Approach Delay		7.2			6.4			69.5				
Approach LOS		A			A			E				

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 26 (14%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 8.9

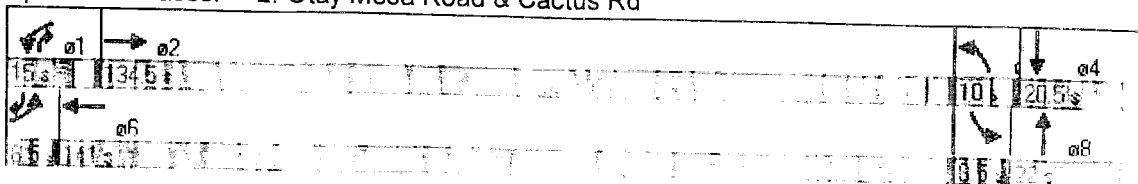
Intersection Capacity Utilization 73.4%























Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service D

Splits and Phases: 2: Otay Mesa Road & Cactus Rd



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frnt		0.996			0.999				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4792	0	1770	4800	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4792	0	1770	4800	0	1770	1863	1583	1770	1863	1583
Satd. Flow (RTOR)		4			1				103			58
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	6	1879	58	100	2443	16	43	1	112	4	0	15
Adj. Flow (vph)	6	1917	59	102	2493	16	44	1	114	4	0	15
Lane Group Flow (vph)	6	1976	0	102	2509	0	44	1	114	4	0	15
Turn Type	Prot			Prot			Prot		pm+ov	Prot		pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases									8			4
Total Split (s)	14.5	104.9	0.0	28.5	118.9	0.0	20.1	32.1	28.5	14.5	26.5	14.5
Act Effct Green (s)	6.7	121.5		37.6	157.1		11.1	8.7	47.5	6.5		6.7
Actuated g/C Ratio	0.04	0.68		0.21	0.87		0.06	0.05	0.26	0.04		0.04
v/c Ratio	0.09	0.61		0.28	0.60		0.40	0.01	0.23	0.06		0.13
Control Delay	86.2	17.6		57.9	3.2		90.7	82.0	10.9	85.5		2.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Total Delay	86.2	17.6		57.9	3.2		90.7	82.0	10.9	85.5		2.3
LOS	F	B		E	A		F	F	B	F		A
Approach Delay		17.8			5.3			33.4				
Approach LOS		B			A			C				

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 139 (77%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 11.5













Intersection LOS: B

Intersection Capacity Utilization 69.9%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Otay Mesa Road & Cactus Rd

											
ø2	ø1	ø3	ø4	ø5	ø6	ø7	ø8				
10.5 s	28.5 s	20.1 s	26.5 s	14.5 s	118.9 s	14.5 s	32.1 s				

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↓	↑↑↑	↓	↑
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4803	1583	1770	4803	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4803	1583	1770	4803	3433	1583
Satd. Flow (RTOR)		499				3
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1991	669	39	988	176	14
Adj. Flow (vph)	2342	787	46	1162	207	16
Lane Group Flow (vph)	2342	787	46	1162	207	16
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Total Split (s)	70.6	36.3	13.1	83.7	36.3	13.1
Act Effct Green (s)	85.7	106.3	8.5	96.1	15.9	27.5
Actuated g/C Ratio	0.71	0.89	0.07	0.80	0.13	0.23
v/c Ratio	0.68	0.54	0.37	0.30	0.46	0.04
Control Delay	12.4	2.1	52.5	2.8	50.3	28.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.4	2.1	52.5	2.8	50.3	28.0
LOS	B	A	D	A	D	C
Approach Delay	9.8			4.7	48.7	
Approach LOS	A			A	D	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 10.3

Intersection LOS: B

Intersection Capacity Utilization 51.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Otay Mesa Road & Britannia Blvd

→ ø2	↖ ø1	
70.6 s	13.1 s	
← ø6	↘ ø8	
83.7 s	36.3 s	

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↓	↑↑↑	↓	↑
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4803	1583	1770	4803	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4803	1583	1770	4803	3433	1583
Satd. Flow (RTOR)		309				12
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1547	287	27	1924	587	35
Adj. Flow (vph)	1663	309	29	2069	631	38
Lane Group Flow (vph)	1663	309	29	2069	631	38
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Total Split (s)	95.2	60.6	24.2	119.4	60.6	24.2
Act Effct Green (s)	122.5	166.0	8.8	133.3	38.7	51.5
Actuated g/C Ratio	0.68	0.92	0.05	0.74	0.22	0.29
v/c Ratio	0.51	0.21	0.33	0.58	0.86	0.08
Control Delay	6.1	0.8	92.1	11.9	79.8	32.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.1	0.8	92.1	11.9	79.8	32.2
LOS	A	A	F	B	E	C
Approach Delay	5.3			13.0	77.1	
Approach LOS	A			B	E	

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 170 (94%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 18.8

Intersection LOS: B























Intersection Capacity Utilization 60.6%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Otay Mesa Road & Brittonia Blvd

↗ ø1	→ ø2	
95.2 s		
← ø6	↖ ø8	
60.6 s		

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850		0.994			0.939			0.913	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4803	1583	1770	4785	0	1770	1690	0	3433	1659	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4803	1583	1770	4785	0	1770	1690	0	3433	1659	0
Satd. Flow (RTOR)			245		9			17			48	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	71	1363	233	87	917	41	75	24	16	59	52	71
Adj. Flow (vph)	75	1435	245	92	965	43	79	25	17	62	55	75
Lane Group Flow (vph)	75	1435	245	92	1008	0	79	42	0	62	130	0
Turn Type	Prot		pm+ov	Prot			Prot			Prot		
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Total Split (s)	11.8	66.8	13.5	17.0	72.0	0.0	13.5	25.0	0.0	11.2	22.7	0.0
Act Effct Green (s)	7.7	71.6	84.6	11.6	77.7		9.0	10.1		12.6	11.8	
Actuated g/C Ratio	0.06	0.60	0.70	0.10	0.65		0.08	0.08		0.10	0.10	
v/c Ratio	0.66	0.50	0.21	0.54	0.32		0.59	0.27		0.17	0.63	
Control Delay	63.4	4.7	1.2	62.9	10.7		72.1	39.9		48.4	45.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	63.4	4.7	1.2	62.9	10.7		72.1	39.9		48.4	45.3	
LOS	E	A	A	E	B		E	D		D	D	
Approach Delay		6.7			15.1			60.9			46.3	
Approach LOS		A			B			E			D	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 87 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 14.1

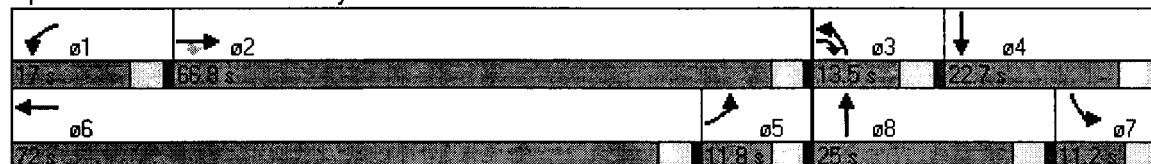
Intersection LOS: B




























Intersection Capacity Utilization 55.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 4: Otay Mesa Road & La Media



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  					 		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850		0.997			0.922			0.903	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4803	1583	1770	4794	0	1770	1670	0	3433	1648	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4803	1583	1770	4794	0	1770	1670	0	3433	1648	0
Satd. Flow (RTOR)			249		3			25			54	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	70	1304	239	55	1458	31	158	22	24	62	63	116
Adj. Flow (vph)	73	1358	249	57	1519	32	165	23	25	65	66	121
Lane Group Flow (vph)	73	1358	249	57	1551	0	165	48	0	65	187	0
Turn Type	Prot		pm+ov	Prot			Prot			Prot		
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Total Split (s)	15.0	71.0	25.9	22.0	78.0	0.0	25.9	30.1	0.0	16.9	21.1	0.0
Act Effct Green (s)	9.9	77.5	99.4	15.4	83.1		17.9	12.1		23.1	15.2	
Actuated g/C Ratio	0.07	0.55	0.71	0.11	0.59		0.13	0.09		0.16	0.11	
v/c Ratio	0.58	0.51	0.21	0.29	0.54		0.73	0.29		0.12	0.82	
Control Delay	81.2	22.5	1.4	59.7	19.6		76.8	39.8		47.4	70.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	81.2	22.5	1.4	59.7	19.6		76.8	39.8		47.4	70.1	
LOS	F	C	A	E	B		E	D		D	E	
Approach Delay		21.9			21.0			68.5			64.3	
Approach LOS		C			C			E			E	

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 27.0

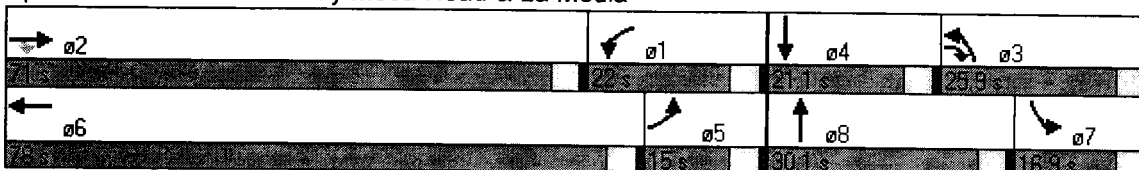
Intersection LOS: C












Intersection Capacity Utilization 65.3%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 4: Otay Mesa Road & La Media



						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.91	0.91	0.97	0.91
Frt			0.996		0.925	0.850
Flt Protected	0.950				0.976	
Satd. Flow (prot)	1770	3539	5065	0	3262	1441
Flt Permitted	0.950				0.976	
Satd. Flow (perm)	1770	3539	5065	0	3262	1441
Satd. Flow (RTOR)			5		10	10
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	106	1374	1028	27	9	18
Adj. Flow (vph)	119	1544	1155	30	10	20
Lane Group Flow (vph)	119	1544	1185	0	20	10
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Total Split (s)	22.0	64.0	42.0	0.0	26.0	26.0
Act Effct Green (s)	15.8	75.6	58.0		6.4	6.4
Actuated g/C Ratio	0.18	0.84	0.64		0.07	0.07
v/c Ratio	0.38	0.52	0.36		0.08	0.09
Control Delay	35.5	2.8	6.9		27.7	22.7
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	35.5	2.8	6.9		27.7	22.7
LOS	D	A	A		C	C
Approach Delay		5.1	6.9		26.0	
Approach LOS		A	A		C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 9 (10%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 6.1

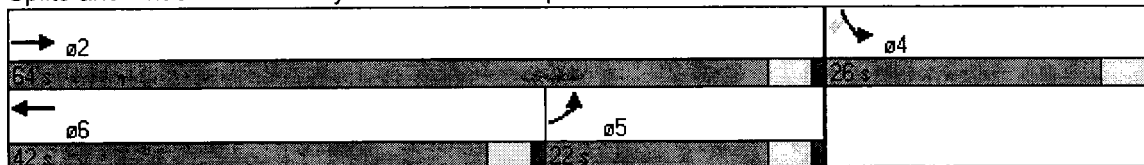
Intersection LOS: A

















Intersection Capacity Utilization 48.0%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 5: Otay Mesa Road & Piper Ranch Rd



						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	  		  	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.91	0.91	0.97	0.91
Frt			0.999		0.924	0.850
Flt Protected	0.950				0.976	
Satd. Flow (prot)	1770	3539	5080	0	3259	1441
Flt Permitted	0.950				0.976	
Satd. Flow (perm)	1770	3539	5080	0	3259	1441
Satd. Flow (RTOR)			1		51	51
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	17	1438	1448	9	45	94
Adj. Flow (vph)	18	1563	1574	10	49	102
Lane Group Flow (vph)	18	1563	1584	0	100	51
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Total Split (s)	13.5	64.5	51.0	0.0	25.5	25.5
Act Effct Green (s)	6.9	74.6	69.8		7.4	7.4
Actuated g/C Ratio	0.08	0.83	0.78		0.08	0.08
v/c Ratio	0.13	0.53	0.40		0.32	0.31
Control Delay	40.4	3.2	1.9		23.8	16.7
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	40.4	3.2	1.9		23.8	16.7
LOS	D	A	A		C	B
Approach Delay		3.6	1.9		21.4	
Approach LOS		A	A		C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 3.6

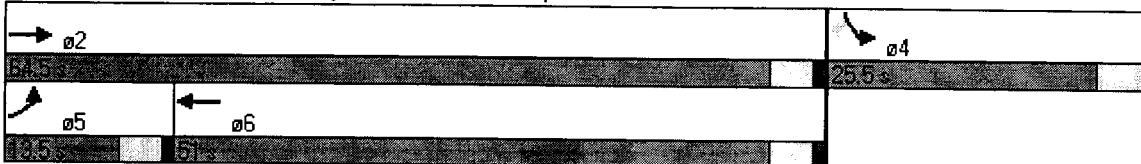
Intersection LOS: A


















Intersection Capacity Utilization 49.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 5: Otay Mesa Road & Piper Ranch Rd



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	0.86	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt		0.911	0.850									0.850
Flt Protected										0.950		
Satd. Flow (prot)	0	4378	1362	0	5085	0	0	0	0	3433	0	1583
Flt Permitted										0.950		
Satd. Flow (perm)	0	4378	1362	0	5085	0	0	0	0	3433	0	1583
Satd. Flow (RTOR)		541	542									83
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	317	931	0	850	0	0	0	0	405	0	145
Adj. Flow (vph)	0	369	1083	0	988	0	0	0	0	471	0	169
Lane Group Flow (vph)	0	910	542	0	988	0	0	0	0	471	0	169
Turn Type			Free							Prot		custom
Protected Phases		2			6					4		
Permitted Phases			Free									4
Total Split (s)	0.0	49.8	0.0	0.0	49.8	0.0	0.0	0.0	0.0	40.2	0.0	40.2
Act Effct Green (s)		64.5	90.0		64.5					17.5		17.5
Actuated g/C Ratio		0.72	1.00		0.72					0.19		0.19
v/c Ratio		0.28	0.40		0.27					0.71		0.45
Control Delay		2.1	0.8		10.3					39.6		19.8
Queue Delay		0.0	0.0		0.0					0.0		0.0
Total Delay		2.1	0.8		10.3					39.6		19.8
LOS		A	A		B					D		B
Approach Delay		1.6			10.3							
Approach LOS		A			B							

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 2 (2%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 11.2

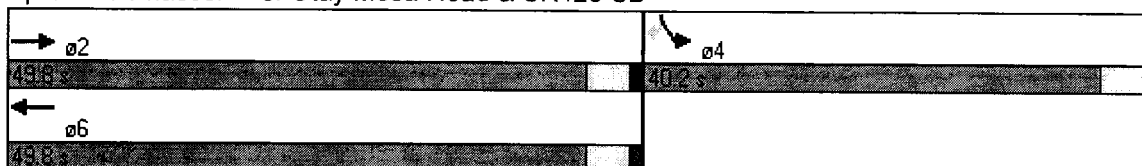
Intersection LOS: B























Intersection Capacity Utilization 34.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 6: Otay Mesa Road & SR125 SB



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  					 		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	0.86	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt		0.875	0.850									0.850
Flt Protected										0.950		
Satd. Flow (prot)	0	4205	1362	0	5085	0	0	0	0	3433	0	1583
Flt Permitted										0.950		
Satd. Flow (perm)	0	4205	1362	0	5085	0	0	0	0	3433	0	1583
Satd. Flow (RTOR)		662	663									43
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	123	1219	0	1473	0	0	0	0	107	0	40
Adj. Flow (vph)	0	134	1325	0	1601	0	0	0	0	116	0	43
Lane Group Flow (vph)	0	796	663	0	1601	0	0	0	0	116	0	43
Turn Type			Free							Prot		custom
Protected Phases		2			6					4		
Permitted Phases			Free									4
Total Split (s)	0.0	64.5	0.0	0.0	64.5	0.0	0.0	0.0	0.0	25.5	0.0	25.5
Act Effct Green (s)		76.2	90.0		76.2					8.6		8.6
Actuated g/C Ratio		0.85	1.00		0.85					0.10		0.10
v/c Ratio		0.22	0.49		0.37					0.35		0.23
Control Delay		0.5	1.4		0.9					40.6		14.8
Queue Delay		0.0	0.0		0.0					0.0		0.0
Total Delay		0.5	1.4		0.9					40.6		14.8
LOS		A	A		A					D		B
Approach Delay		0.9			0.9							
Approach LOS		A			A							

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 56 (62%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.49

Intersection Signal Delay: 2.5

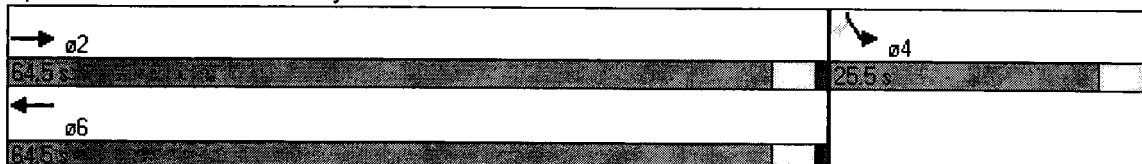
Intersection LOS: A











Intersection Capacity Utilization 48.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 6: Otay Mesa Road & SR125 SB



						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				89		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	29	693	804	77	0	0
Adj. Flow (vph)	33	797	924	89	0	0
Lane Group Flow (vph)	33	797	924	89	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Total Split (s)	18.0	90.0	72.0	72.0	0.0	0.0
Act Effct Green (s)	6.9	90.0	80.8	80.8		
Actuated g/C Ratio	0.08	1.00	0.90	0.90		
v/c Ratio	0.13	0.23	0.29	0.04		
Control Delay	34.4	0.2	0.4	0.0		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	34.4	0.2	0.4	0.0		
LOS	C	A	A	A		
Approach Delay		1.5	0.3			
Approach LOS		A	A			

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 62 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.29

Intersection Signal Delay: 0.9

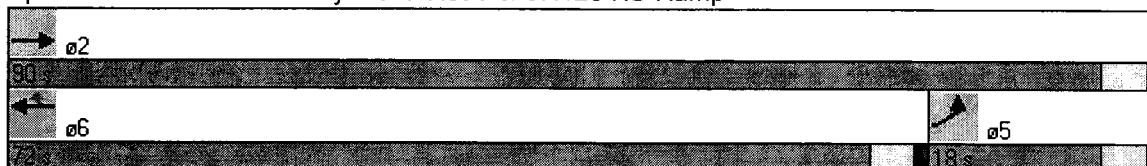
Intersection LOS: A











Intersection Capacity Utilization 34.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp



						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				427		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	113	117	1394	389	0	0
Adj. Flow (vph)	124	129	1532	427	0	0
Lane Group Flow (vph)	124	129	1532	427	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Total Split (s)	17.0	90.0	73.0	73.0	0.0	0.0
Act Effct Green (s)	9.1	90.0	72.9	72.9		
Actuated g/C Ratio	0.10	1.00	0.81	0.81		
v/c Ratio	0.36	0.04	0.53	0.18		
Control Delay	51.3	0.0	3.5	0.7		
Queue Delay	0.0	0.0	0.2	0.0		
Total Delay	51.3	0.0	3.7	0.7		
LOS	D	A	A	A		
Approach Delay		25.2	3.0			
Approach LOS		C	A			

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 33 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 5.6

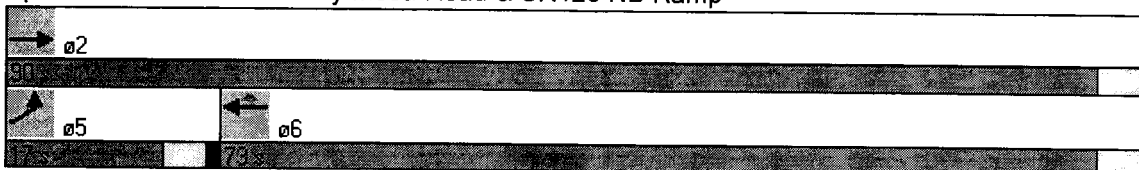
Intersection LOS: A

Intersection Capacity Utilization 48.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp



	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘↙	↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	3433	1583
Satd. Flow (RTOR)						17
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	710	0	0	214	689	15
Adj. Flow (vph)	826	0	0	249	801	17
Lane Group Flow (vph)	826	0	0	249	801	17
Turn Type						Perm
Protected Phases	2			6	8	
Permitted Phases						8
Total Split (s)	44.5	0.0	0.0	44.5	45.5	45.5
Act Effct Green (s)	56.4			56.4	25.6	25.6
Actuated g/C Ratio	0.63			0.63	0.28	0.28
v/c Ratio	0.37			0.11	0.82	0.04
Control Delay	3.7			7.4	31.8	3.6
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	3.7			7.4	31.8	3.6
LOS	A			A	C	A
Approach Delay	3.7			7.4	31.2	
Approach LOS	A			A	C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 80 (89%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 16.1

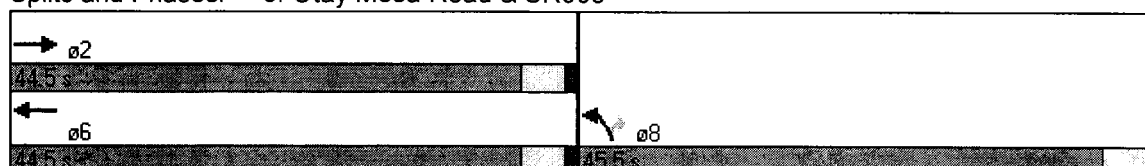
Intersection LOS: B

Intersection Capacity Utilization 45.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 8: Otay Mesa Road & SR905



	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘↙	↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Fr't						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	3433	1583
Satd. Flow (RTOR)						9
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	117	0	0	654	1168	8
Adj. Flow (vph)	129	0	0	719	1284	9
Lane Group Flow (vph)	129	0	0	719	1284	9
Turn Type						Perm
Protected Phases	2			6	8	
Permitted Phases						8
Total Split (s)	39.0	0.0	0.0	39.0	51.0	51.0
Act Effct Green (s)	40.9			40.9	41.1	41.1
Actuated g/C Ratio	0.45			0.45	0.46	0.46
v/c Ratio	0.08			0.45	0.82	0.01
Control Delay	7.8			20.2	23.1	5.0
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	7.8			20.2	23.1	5.0
LOS	A			C	C	A
Approach Delay	7.8			20.2	23.0	
Approach LOS	A			C	C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 31 (34%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 21.1

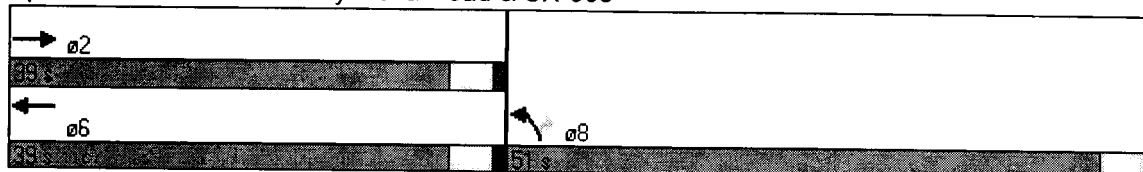
Intersection LOS: C

Intersection Capacity Utilization 58.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 8: Otay Mesa Road & SR-905



	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑	↖↗	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Fr _t	0.951				0.965	
Flt Protected			0.950		0.963	
Satd. Flow (prot)	3366	0	1770	1863	3358	0
Flt Permitted			0.950		0.963	
Satd. Flow (perm)	3366	0	1770	1863	3358	0
Satd. Flow (RTOR)	119				12	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	416	200	24	201	32	10
Adj. Flow (vph)	520	250	30	251	40	12
Lane Group Flow (vph)	770	0	30	251	52	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Total Split (s)	45.2	0.0	21.5	66.7	23.3	0.0
Act Effct Green (s)	75.5		7.4	80.7	7.0	
Actuated g/C Ratio	0.84		0.08	0.90	0.08	
v/c Ratio	0.27		0.21	0.15	0.19	
Control Delay	1.5		41.4	1.4	33.1	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	1.5		41.4	1.4	33.1	
LOS	A		D	A	C	
Approach Delay	1.5			5.7	33.1	
Approach LOS	A			A	C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.27

Intersection Signal Delay: 4.1

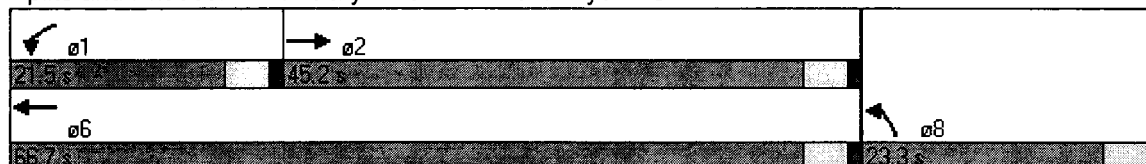
Intersection LOS: A

Intersection Capacity Utilization 29.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave



	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑	↖↖	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.934				0.996	
Flt Protected			0.950		0.954	
Satd. Flow (prot)	3306	0	1770	1863	3434	0
Flt Permitted			0.950		0.954	
Satd. Flow (perm)	3306	0	1770	1863	3434	0
Satd. Flow (RTOR)	67				3	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	69	54	12	528	185	5
Adj. Flow (vph)	85	67	15	652	228	6
Lane Group Flow (vph)	152	0	15	652	234	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Total Split (s)	48.4	0.0	17.5	65.9	24.1	0.0
Act Effct Green (s)	68.0		6.7	70.4	11.6	
Actuated g/C Ratio	0.76		0.07	0.78	0.13	
v/c Ratio	0.06		0.11	0.45	0.53	
Control Delay	1.1		40.4	4.7	40.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	1.1		40.4	4.7	40.2	
LOS	A		D	A	D	
Approach Delay	1.1			5.5	40.2	
Approach LOS	A			A	D	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 12.6

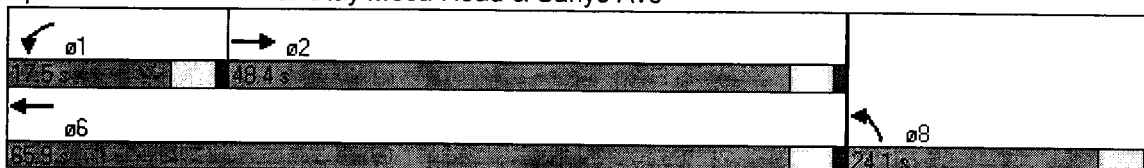
Intersection LOS: B

Intersection Capacity Utilization 39.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave



	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖	↗	↖	↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t	0.997					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1857	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1857	0	1770	1863	1770	1583
Satd. Flow (RTOR)	1					56
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	460	11	9	88	55	48
Adj. Flow (vph)	541	13	11	104	65	56
Lane Group Flow (vph)	554	0	11	104	65	56
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	65.5	0.0	21.0	86.5	33.5	33.5
Act Effct Green (s)	16.2		6.6	17.5	8.0	8.0
Actuated g/C Ratio	0.47		0.15	0.51	0.23	0.23
v/c Ratio	0.63		0.04	0.11	0.16	0.14
Control Delay	11.0		20.7	3.9	16.1	7.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	11.0		20.7	3.9	16.1	7.5
LOS	B		C	A	B	A
Approach Delay	11.0			5.5	12.1	
Approach LOS	B			A	B	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 34.5

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 10.4

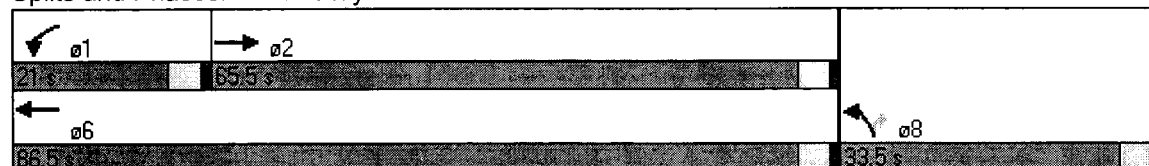
Intersection LOS: B

Intersection Capacity Utilization 34.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr



	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖	↗	↖	↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.991					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1846	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1846	0	1770	1863	1770	1583
Satd. Flow (RTOR)	4					28
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	53	4	40	567	36	26
Adj. Flow (vph)	58	4	43	616	39	28
Lane Group Flow (vph)	62	0	43	616	39	28
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	60.3	0.0	25.2	85.5	34.5	34.5
Act Effct Green (s)	14.1		6.9	15.9	7.0	7.0
Actuated g/C Ratio	0.45		0.17	0.51	0.22	0.22
v/c Ratio	0.07		0.14	0.65	0.10	0.07
Control Delay	6.7		16.2	9.0	13.0	7.2
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	6.7		16.2	9.0	13.0	7.2
LOS	A		B	A	B	A
Approach Delay	6.7			9.5	10.6	
Approach LOS	A			A	B	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 31.3

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 9.4

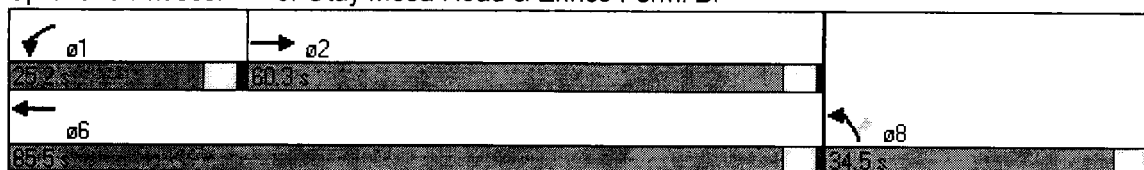
Intersection LOS: A

















Intersection Capacity Utilization 39.8%

















ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr



																				
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR								
Lane Configurations																				
Sign Control		Stop			Stop			Stop			Stop									
Volume (vph)	652	0	2	0	0	0	9	1	0	0	4	168								
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95								
Hourly flow rate (vph)	686	0	2	0	0	0	9	1	0	0	4	177								
Direction, Lane #	EB 1	WB 1	NB 1	SB 1																
Volume Total (vph)	688	0	11	181																
Volume Left (vph)	686	0	9	0																
Volume Right (vph)	2	0	0	177																
Hadj (s)	0.23	0.00	0.21	-0.55																
Departure Headway (s)	4.6	5.3	6.2	5.1																
Degree Utilization, x	0.89	0.00	0.02	0.26																
Capacity (veh/h)	763	659	557	683																
Control Delay (s)	32.5	8.3	9.3	9.8																
Approach Delay (s)	32.5	0.0	9.3	9.8																
Approach LOS	D	A	A	A																
Intersection Summary																				
Delay			27.6																	
HCM Level of Service			D																	
Intersection Capacity Utilization			53.5%	ICU Level of Service		A														
Analysis Period (min)			15																	


















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	101	1	1	0	0	0	6	0	0	0	1	726
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	106	1	1	0	0	0	6	0	0	0	1	764
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	108	0	6	765								
Volume Left (vph)	106	0	6	0								
Volume Right (vph)	1	0	0	764								
Hadj (s)	0.22	0.00	0.23	-0.57								
Departure Headway (s)	5.6	5.6	5.2	3.7								
Degree Utilization, x	0.17	0.00	0.01	0.78								
Capacity (veh/h)	586	599	652	765								
Control Delay (s)	9.8	8.6	8.2	18.3								
Approach Delay (s)	9.8	0.0	8.2	18.3								
Approach LOS	A	A	A	C								
Intersection Summary												
Delay				17.2								
HCM Level of Service				C								
Intersection Capacity Utilization				57.4%	ICU Level of Service			B				
Analysis Period (min)				15								


















HCM Unsignalized Intersection Capacity Analysis

3/22/2010

17: Airway Rd & La Media

Existing - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	9	84	60	7	80	49	57	101	3	209	255	46
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	10	93	67	8	89	54	63	112	3	232	283	51
Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2							
Volume Total (vph)	170	151	179	232	334							
Volume Left (vph)	10	8	63	232	0							
Volume Right (vph)	67	54	3	0	51							
Hadj (s)	-0.19	-0.17	0.16	0.53	0.01							
Departure Headway (s)	5.9	5.9	5.9	6.3	5.8							
Degree Utilization, x	0.28	0.25	0.29	0.41	0.53							
Capacity (veh/h)	562	550	556	555	609							
Control Delay (s)	11.1	10.9	11.4	12.3	14.0							
Approach Delay (s)	11.1	10.9	11.4	13.3								
Approach LOS	B	B	B	B								
Intersection Summary												
Delay			12.3									
HCM Level of Service			B									
Intersection Capacity Utilization			46.1%			ICU Level of Service				A		
Analysis Period (min)			15									




















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	38	145	83	19	116	119	72	180	8	143	171	23
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Hourly flow rate (vph)	38	146	84	19	117	120	73	182	8	144	173	23
Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2							
Volume Total (vph)	269	257	263	144	196							
Volume Left (vph)	38	19	73	144	0							
Volume Right (vph)	84	120	8	0	23							
Hadj (s)	-0.12	-0.23	0.14	0.53	0.04							
Departure Headway (s)	6.2	6.1	6.5	7.2	6.7							
Degree Utilization, x	0.46	0.44	0.48	0.29	0.37							
Capacity (veh/h)	531	533	505	463	488							
Control Delay (s)	14.5	13.9	15.4	12.0	12.4							
Approach Delay (s)	14.5	13.9	15.4	12.2								
Approach LOS	B	B	C	B								
Intersection Summary												
Delay			13.9									
HCM Level of Service			B									
Intersection Capacity Utilization			58.4%			ICU Level of Service				B		
Analysis Period (min)			15									

3/25/2010

19: Airway Rd & Sanyo Ave

HCM Unsignalized Intersection Capacity Analysis

Existing - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	14	81	91	4	88	9	31	15	3	59	121	12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	15	87	98	4	95	10	33	16	3	63	130	13
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2					
Volume Total (vph)	200	99	10	33	19	194	13					
Volume Left (vph)	15	4	0	33	0	63	0					
Volume Right (vph)	98	0	10	0	3	0	13					
Hadj (s)	-0.24	0.06	-0.67	0.53	-0.08	0.20	-0.67					
Departure Headway (s)	5.1	5.5	4.8	6.1	5.5	5.6	4.7					
Degree Utilization, x	0.28	0.15	0.01	0.06	0.03	0.30	0.02					
Capacity (veh/h)	668	618	706	551	610	612	719					
Control Delay (s)	10.1	8.3	6.6	8.3	7.5	9.8	6.6					
Approach Delay (s)	10.1	8.1		8.0		9.6						
Approach LOS	B	A		A		A						

Intersection Summary




















Delay	9.3						
HCM Level of Service	A						
Intersection Capacity Utilization	40.2%			ICU Level of Service		A	
Analysis Period (min)	15						







3/25/2010







19: Airway Road & Sanyo Ave

HCM Unsignalized Intersection Capacity Analysis







Existing - PM























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	4	60	51	4	159	55	79	126	2	21	26	35
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	5	69	59	5	183	63	91	145	2	24	30	40
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2					
Volume Total (vph)	132	187	63	91	147	54	40					
Volume Left (vph)	5	5	0	91	0	24	0					
Volume Right (vph)	59	0	63	0	2	0	40					
Hadj (s)	-0.23	0.05	-0.67	0.53	0.02	0.26	-0.67					
Departure Headway (s)	5.5	5.6	4.9	6.2	5.7	6.1	5.2					
Degree Utilization, x	0.20	0.29	0.09	0.16	0.23	0.09	0.06					
Capacity (veh/h)	614	609	692	552	601	545	637					
Control Delay (s)	9.9	9.7	7.2	9.1	9.2	8.5	7.3					
Approach Delay (s)	9.9	9.1		9.2		8.0						
Approach LOS	A	A		A		A						
Intersection Summary												
Delay			9.1									
HCM Level of Service			A									
Intersection Capacity Utilization			30.1%		ICU Level of Service				A			
Analysis Period (min)			15									

							
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑↱		↱	↑↑	↱	↱	
Sign Control	Free			Free	Stop		
Grade	0%			0%	0%		
Volume (veh/h)	86	46	5	68	33	9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Hourly flow rate (vph)	96	51	6	76	37	10	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type					None		
Median storage veh							
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume			147		170	73	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol			147		170	73	
tC, single (s)			4.1		6.8	6.9	
tC, 2 stage (s)							
tF (s)			2.2		3.5	3.3	
p0 queue free %			100		95	99	
cM capacity (veh/h)			1433		801	974	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	64	83	6	38	38	37	10
Volume Left	0	0	6	0	0	37	0
Volume Right	0	51	0	0	0	0	10
cSH	1700	1700	1433	1700	1700	801	974
Volume to Capacity	0.04	0.05	0.00	0.02	0.02	0.05	0.01
Queue Length 95th (ft)	0	0	0	0	0	4	1
Control Delay (s)	0.0	0.0	7.5	0.0	0.0	9.7	8.7
Lane LOS			A			A	A
Approach Delay (s)	0.0		0.5			9.5	
Approach LOS						A	
Intersection Summary							
Average Delay			1.8				
Intersection Capacity Utilization			14.2%		ICU Level of Service		A
Analysis Period (min)			15				

							
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑		↵	↑↑	↵	↵	
Sign Control	Free			Free	Stop		
Grade	0%			0%	0%		
Volume (veh/h)	56	29	26	126	82	10	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	
Hourly flow rate (vph)	64	33	30	145	94	11	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type					None		
Median storage veh							
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume			98		213	49	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol			98		213	49	
tC, single (s)			4.1		6.8	6.9	
tC, 2 stage (s)							
tF (s)			2.2		3.5	3.3	
p0 queue free %			98		87	99	
cM capacity (veh/h)			1493		741	1009	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	43	55	30	72	72	94	11
Volume Left	0	0	30	0	0	94	0
Volume Right	0	33	0	0	0	0	11
cSH	1700	1700	1493	1700	1700	741	1009
Volume to Capacity	0.03	0.03	0.02	0.04	0.04	0.13	0.01
Queue Length 95th (ft)	0	0	2	0	0	11	1
Control Delay (s)	0.0	0.0	7.5	0.0	0.0	10.6	8.6
Lane LOS			A			B	A
Approach Delay (s)	0.0		1.3			10.4	
Approach LOS						B	
Intersection Summary							
Average Delay			3.5				
Intersection Capacity Utilization			19.3%		ICU Level of Service		A
Analysis Period (min)			15				

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑	↘	↗
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	31	37	4	62	23	11
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	40	47	5	79	29	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)				1290		
pX, platoon unblocked						
vC, conflicting volume			87		153	44
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			87		153	44
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		96	99
cM capacity (veh/h)			1507		820	1017
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	26	61	5	79	29	14
Volume Left	0	0	5	0	29	0
Volume Right	0	47	0	0	0	14
cSH	1700	1700	1507	1700	820	1017
Volume to Capacity	0.02	0.04	0.00	0.05	0.04	0.01
Queue Length 95th (ft)	0	0	0	0	3	1
Control Delay (s)	0.0	0.0	7.4	0.0	9.6	8.6
Lane LOS			A		A	A
Approach Delay (s)	0.0		0.4		9.2	
Approach LOS					A	
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			13.3%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑	↵	↵
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	13	36	1	75	55	1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	15	43	1	89	65	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)				1300		
pX, platoon unblocked						
vC, conflicting volume			58		129	29
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			58		129	29
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		92	100
cM capacity (veh/h)			1544		852	1039
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	10	48	1	89	65	1
Volume Left	0	0	1	0	65	0
Volume Right	0	43	0	0	0	1
cSH	1700	1700	1544	1700	852	1039
Volume to Capacity	0.01	0.03	0.00	0.05	0.08	0.00
Queue Length 95th (ft)	0	0	0	0	6	0
Control Delay (s)	0.0	0.0	7.3	0.0	9.6	8.5
Lane LOS			A		A	A
Approach Delay (s)	0.0		0.1		9.6	
Approach LOS					A	
Intersection Summary						
Average Delay			3.0			
Intersection Capacity Utilization			13.9%		ICU Level of Service	A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.922	0.850			0.850		0.904			0.987	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1632	1504	1770	1863	1583	1770	3199	0	1770	3493	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1632	1504	1770	1863	1583	1770	3199	0	1770	3493	0
Satd. Flow (RTOR)		13	21			1		188			6	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	3	11	27	1	2	1	59	85	173	1	52	5
Adj. Flow (vph)	4	12	34	1	2	1	74	106	188	1	65	6
Lane Group Flow (vph)	4	25	21	1	2	1	74	294	0	1	71	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Total Split (s)	9.5	21.0	21.0	9.0	20.5	20.5	12.3	21.0	0.0	49.0	57.7	0.0
Act Effct Green (s)	6.9	8.6	8.6	6.3	8.4	8.4	9.7	43.5		7.6	38.8	
Actuated g/C Ratio	0.11	0.14	0.14	0.10	0.13	0.13	0.15	0.76		0.12	0.68	
v/c Ratio	0.02	0.11	0.09	0.01	0.01	0.00	0.27	0.12		0.00	0.03	
Control Delay	16.3	10.6	8.5	17.0	13.5	12.0	13.7	3.4		16.0	9.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	16.3	10.6	8.5	17.0	13.5	12.0	13.7	3.4		16.0	9.4	
LOS	B	B	A	B	B	B	B	A		B	A	
Approach Delay		10.2			14.0			5.5			9.5	
Approach LOS		B			B			A			A	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 57.4

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.27

Intersection Signal Delay: 6.6

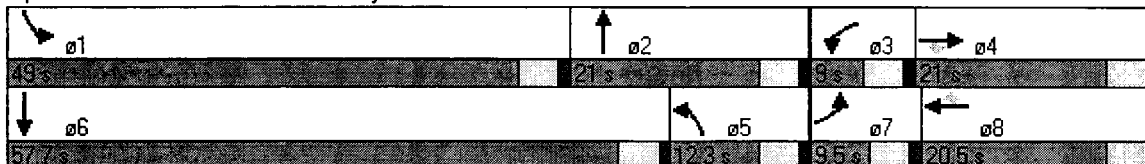
Intersection Capacity Utilization 24.6%

























Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service A

Splits and Phases: 23: Airway Rd & Enrico Fermi Dr



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Fr't		0.850	0.850					0.999			0.975	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1770	1504	1504	1863	1863	1863	1770	3536	0	1863	3451	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1770	1504	1504	1863	1863	1863	1770	3536	0	1863	3451	0
Satd. Flow (RTOR)		985	985					1			11	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	2	0	13	0	0	0	70	97	1	0	46	9
Adj. Flow (vph)	2	0	16	0	0	0	85	118	1	0	56	11
Lane Group Flow (vph)	2	8	8	0	0	0	85	119	0	0	67	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Total Split (s)	15.5	27.5	27.5	15.5	27.5	27.5	20.9	31.5	0.0	15.5	26.1	0.0
Act Effct Green (s)	6.2	6.1	6.1				11.6	87.1			71.1	
Actuated g/C Ratio	0.07	0.07	0.07				0.13	0.97			0.79	
v/c Ratio	0.02	0.01	0.01				0.37	0.03			0.02	
Control Delay	39.0	0.0	0.0				39.9	0.5			3.4	
Queue Delay	0.0	0.0	0.0				0.0	0.0			0.0	
Total Delay	39.0	0.0	0.0				39.9	0.5			3.4	
LOS	D	A	A				D	A			A	
Approach Delay		4.3						16.9			3.4	
Approach LOS		A						B			A	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.37

Intersection Signal Delay: 13.0









Intersection LOS: B

Intersection Capacity Utilization 20.5%

ICU Level of Service A

















Analysis Period (min) 15

















Splits and Phases: 23: Airway Road & Enrico Fermi Dr

 ø1	 ø2	 ø3	 ø4
15.5 s	31.5 s	15.5 s	27.5 s
 ø6	 ø5	 ø7	 ø8
26.1 s	20.9 s	15.5 s	27.5 s

HCM Unsignalized Intersection Capacity Analysis
3/22/2010

27: Siempre Viva Rd & La Media
Existing - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	5	2	0	10	2	93	0	9	2	236	11	4
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	6	2	0	11	2	107	0	10	2	271	13	5
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	8	121	13	289								
Volume Left (vph)	6	11	0	271								
Volume Right (vph)	0	107	2	5								
Hadj (s)	0.18	-0.48	0.01	0.22								
Departure Headway (s)	4.9	4.1	4.5	4.4								
Degree Utilization, x	0.01	0.14	0.02	0.35								
Capacity (veh/h)	672	805	755	787								
Control Delay (s)	8.0	7.8	7.6	9.8								
Approach Delay (s)	8.0	7.8	7.6	9.8								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			9.2									
HCM Level of Service			A									
Intersection Capacity Utilization			33.5%		ICU Level of Service					A		
Analysis Period (min)			15									

																				
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR								
Lane Configurations																				
Sign Control		Stop			Stop			Stop			Stop									
Volume (vph)	5	10	0	9	3	121	0	61	1	178	83	10								
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81								
Hourly flow rate (vph)	6	12	0	11	4	149	0	75	1	220	102	12								
Direction, Lane #	EB 1	WB 1	NB 1	SB 1																
Volume Total (vph)	19	164	77	335																
Volume Left (vph)	6	11	0	220																
Volume Right (vph)	0	149	1	12																
Hadj (s)	0.10	-0.50	0.12	0.17																
Departure Headway (s)	5.2	4.4	4.9	4.6																
Degree Utilization, x	0.03	0.20	0.10	0.43																
Capacity (veh/h)	619	747	697	752																
Control Delay (s)	8.4	8.5	8.4	11.0																
Approach Delay (s)	8.4	8.5	8.4	11.0																
Approach LOS	A	A	A	B																
Intersection Summary																				
Delay			9.9																	
HCM Level of Service			A																	
Intersection Capacity Utilization			36.6%	ICU Level of Service						A										
Analysis Period (min)			15																	

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↘↙	↑↑↑		↗↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	0.91	0.97	0.91	1.00	0.88
Fr't	0.986					0.850
Flt Protected			0.950			
Satd. Flow (prot)	5014	0	3433	5085	0	2787
Flt Permitted			0.950			
Satd. Flow (perm)	5014	0	3433	5085	0	2787
Satd. Flow (RTOR)	19					940
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	468	46	202	702	0	280
Adj. Flow (vph)	514	51	222	771	0	308
Lane Group Flow (vph)	565	0	222	771	0	308
Turn Type			Prot			custom
Protected Phases	2		1	6		
Permitted Phases						8
Total Split (s)	33.0	0.0	25.0	58.0	0.0	32.0
Act Effct Green (s)	60.9		11.1	76.0		6.0
Actuated g/C Ratio	0.68		0.12	0.84		0.07
v/c Ratio	0.17		0.52	0.18		0.29
Control Delay	5.5		40.3	1.1		0.7
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	5.5		40.3	1.1		0.7
LOS	A		D	A		A
Approach Delay	5.5			9.9		
Approach LOS	A			A		

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 66 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 7.0

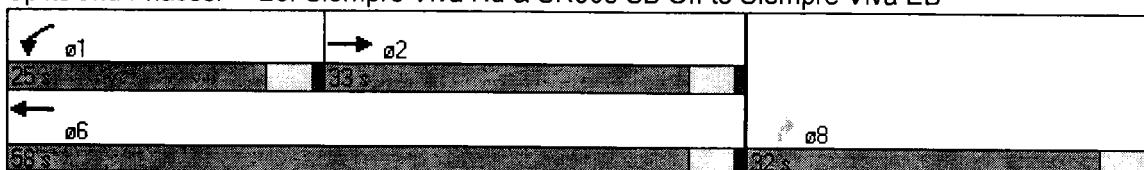
Intersection LOS: A

Intersection Capacity Utilization 26.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 28: Siempre Viva Rd & SR905 SB Off to Siempre Viva EB



	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↘↙	↑↑↑		↗↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	0.91	0.97	0.91	1.00	0.88
Frt	0.937					0.850
Flt Protected			0.950			
Satd. Flow (prot)	4765	0	3433	5085	0	2787
Flt Permitted			0.950			
Satd. Flow (perm)	4765	0	3433	5085	0	2787
Satd. Flow (RTOR)	214					1005
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	444	322	338	669	0	175
Adj. Flow (vph)	522	379	398	787	0	206
Lane Group Flow (vph)	901	0	398	787	0	206
Turn Type			Prot			custom
Protected Phases	2		1	6		
Permitted Phases						8
Total Split (s)	32.8	0.0	28.7	61.5	0.0	28.5
Act Effct Green (s)	47.3		24.7	76.0		6.0
Actuated g/C Ratio	0.53		0.27	0.84		0.07
v/c Ratio	0.35		0.42	0.18		0.18
Control Delay	9.6		24.6	1.3		0.4
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	9.6		24.6	1.3		0.4
LOS	A		C	A		A
Approach Delay	9.6			9.1		
Approach LOS	A			A		

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 29 (32%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.42

Intersection Signal Delay: 8.5

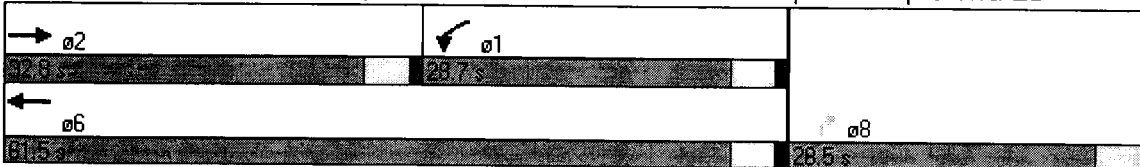
Intersection LOS: A

Intersection Capacity Utilization 32.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 28: Siempre Viva Road & SR905 SB Off Ramp to Siempre Viva EB









3/22/2010

29: Siempre Viva Rd & SR905 SB Off to Siempre Viva WB

HCM Unsignalized Intersection Capacity Analysis

Existing - AM







							
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		↑↑↑↑	↑↑↑↑			↗	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Volume (veh/h)	0	748	540	0	0	364	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	
Hourly flow rate (vph)	0	860	621	0	0	418	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type					None		
Median storage veh							
Upstream signal (ft)		281	733				
pX, platoon unblocked					0.99		
vC, conflicting volume	621				907	207	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	621				875	207	
tC, single (s)	4.1				6.8	6.9	
tC, 2 stage (s)							
tF (s)	2.2				3.5	3.3	
p0 queue free %	100				100	48	
cM capacity (veh/h)	956				284	799	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	287	287	287	207	207	207	418
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	418
cSH	1700	1700	1700	1700	1700	1700	799
Volume to Capacity	0.17	0.17	0.17	0.12	0.12	0.12	0.52
Queue Length 95th (ft)	0	0	0	0	0	0	77
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	14.3
Lane LOS							B
Approach Delay (s)	0.0			0.0			14.3
Approach LOS							B
Intersection Summary							
Average Delay			3.2				
Intersection Capacity Utilization			39.6%		ICU Level of Service		A
Analysis Period (min)			15				

























3/22/2010

29: Siempre Viva Road & SR905 SB Off Ramp to Siempre Viva WB

HCM Unsignalized Intersection Capacity Analysis

Existing - PM

							
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		↑↑↑	↑↑↑			↑	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Volume (veh/h)	0	619	631	0	0	376	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	
Hourly flow rate (vph)	0	666	678	0	0	404	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type					None		
Median storage veh							
Upstream signal (ft)		234	402				
pX, platoon unblocked	0.98				0.98	0.98	
vC, conflicting volume	678				900	226	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	626				853	164	
tC, single (s)	4.1				6.8	6.9	
tC, 2 stage (s)							
tF (s)	2.2				3.5	3.3	
p0 queue free %	100				100	51	
cM capacity (veh/h)	930				292	833	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	222	222	222	226	226	226	404
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	404
cSH	1700	1700	1700	1700	1700	1700	833
Volume to Capacity	0.13	0.13	0.13	0.13	0.13	0.13	0.49
Queue Length 95th (ft)	0	0	0	0	0	0	67
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	13.3
Lane LOS							B
Approach Delay (s)	0.0			0.0			13.3
Approach LOS							B
Intersection Summary							
Average Delay			3.1				
Intersection Capacity Utilization			42.1%		ICU Level of Service		A
Analysis Period (min)			15				

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  				 			
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	1.00	1.00	0.88	1.00	1.00	1.00
Frnt					0.989	0.850			0.850			
Flt Protected	0.950							0.953				
Satd. Flow (prot)	3433	5085	0	0	4753	1362	0	1775	2787	0	0	0
Flt Permitted	0.950							0.953				
Satd. Flow (perm)	3433	5085	0	0	4753	1362	0	1775	2787	0	0	0
Satd. Flow (RTOR)					14	150			230			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	125	613	0	0	382	175	164	1	221	0	0	0
Adj. Flow (vph)	130	639	0	0	398	182	171	1	230	0	0	0
Lane Group Flow (vph)	130	639	0	0	430	150	0	172	230	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Total Split (s)	24.0	56.5	0.0	0.0	32.5	32.5	33.5	33.5	33.5	0.0	0.0	0.0
Act Effct Green (s)	9.0	68.1			55.1	55.1		13.9	13.9			
Actuated g/C Ratio	0.10	0.76			0.61	0.61		0.15	0.15			
v/c Ratio	0.38	0.17			0.15	0.17		0.63	0.37			
Control Delay	37.9	1.4			8.2	2.3		45.1	6.1			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	37.9	1.4			8.2	2.3		45.1	6.1			
LOS	D	A			A	A		D	A			
Approach Delay		7.6			6.7			22.8				
Approach LOS		A			A			C				

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 77 (86%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 10.8

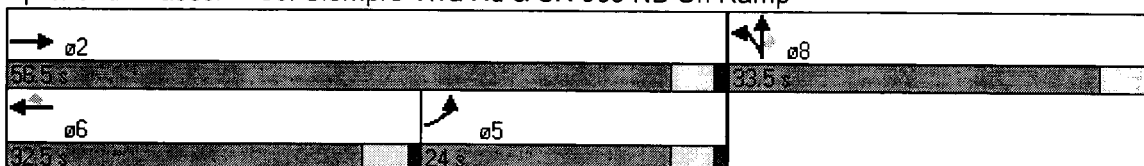
Intersection LOS: B



















Intersection Capacity Utilization 39.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 30: Siempre Viva Rd & SR 905 NB On Ramp



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	1.00	1.00	0.88	1.00	1.00	1.00
Frt					0.976	0.850			0.850			
Flt Protected	0.950							0.954				
Satd. Flow (prot)	3433	5085	0	0	4691	1362	0	1777	2787	0	0	0
Flt Permitted	0.950							0.954				
Satd. Flow (perm)	3433	5085	0	0	4691	1362	0	1777	2787	0	0	0
Satd. Flow (RTOR)					42	285			197			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	297	352	0	0	577	373	49	2	183	0	0	0
Adj. Flow (vph)	319	378	0	0	620	401	53	2	197	0	0	0
Lane Group Flow (vph)	319	378	0	0	736	285	0	55	197	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Total Split (s)	26.1	61.5	0.0	0.0	35.4	35.4	28.5	28.5	28.5	0.0	0.0	0.0
Act Effct Green (s)	14.5	73.5			55.0	55.0		8.5	8.5			
Actuated g/C Ratio	0.16	0.82			0.61	0.61		0.09	0.09			
v/c Ratio	0.58	0.09			0.26	0.30		0.33	0.45			
Control Delay	32.3	0.9			8.5	2.2		42.7	9.2			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	32.3	0.9			8.5	2.2		42.7	9.2			
LOS	C	A			A	A		D	A			
Approach Delay		15.2			6.7			16.5				
Approach LOS		B			A			B				

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 66 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 11.0

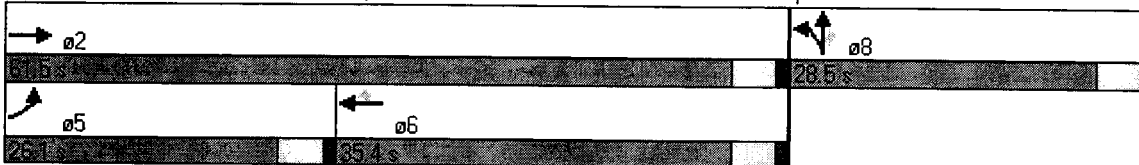
Intersection LOS: B
























Intersection Capacity Utilization 42.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 30: Siempre Viva Road & SR905 NB On Ramp



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.999				0.850		0.932	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3536	0	1770	3539	1583	1770	3299	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5085	1583	1770	3536	0	1770	3539	1583	1770	3299	0
Satd. Flow (RTOR)			154						5		58	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	517	339	140	21	255	1	120	51	5	8	64	53
Adj. Flow (vph)	568	373	154	23	280	1	132	56	5	9	70	58
Lane Group Flow (vph)	568	373	154	23	281	0	132	56	5	9	128	0
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Total Split (s)	36.0	48.1	48.1	9.4	21.5	0.0	12.0	24.0	24.0	8.5	20.5	0.0
Act Effct Green (s)	27.6	39.7	39.7	5.4	11.4		8.1	18.4	18.4	4.6	7.7	
Actuated g/C Ratio	0.39	0.56	0.56	0.07	0.16		0.11	0.26	0.26	0.06	0.11	
v/c Ratio	0.83	0.13	0.16	0.18	0.50		0.65	0.06	0.01	0.09	0.31	
Control Delay	32.0	8.3	2.4	39.1	31.5		50.9	24.4	17.0	39.4	21.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	32.0	8.3	2.4	39.1	31.5		50.9	24.4	17.0	39.4	21.3	
LOS	C	A	A	D	C		D	C	B	D	C	
Approach Delay		19.8			32.1			42.3			22.5	
Approach LOS		B			C			D			C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 71.1

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 24.7









Intersection Capacity Utilization 59.0%






























Analysis Period (min) 15

Intersection LOS: C

ICU Level of Service B

Splits and Phases: 32: Siempre Viva Rd & Paseo De Las Americas

			
ø1	ø2	ø3	ø4
9.4 s	48.1 s	12 s	20.5 s
			
ø5	ø6	ø7	ø8
36 s	21.5 s	8.5 s	24 s









												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 			 			  	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.993				0.850		0.926	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3514	0	1770	3539	1583	1770	3277	0
Flt Permitted	0.950			0.950			0.459			0.666		
Satd. Flow (perm)	1770	5085	1583	1770	3514	0	855	3539	1583	1241	3277	0
Satd. Flow (RTOR)			67		4				8		89	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	630	102	59	30	274	14	269	120	7	6	80	78
Adj. Flow (vph)	716	116	67	34	311	16	306	136	8	7	91	89
Lane Group Flow (vph)	716	116	67	34	327	0	306	136	8	7	180	0
Turn Type	Prot		Perm	Prot			pm+pt		Perm	pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2				8		8	4		
Total Split (s)	57.0	67.3	67.3	10.6	20.9	0.0	21.6	31.0	31.0	11.1	20.5	0.0
Act Effct Green (s)	45.1	57.8	57.8	6.6	14.2		29.5	27.5	27.5	15.6	9.1	
Actuated g/C Ratio	0.45	0.57	0.57	0.06	0.14		0.29	0.27	0.27	0.14	0.09	
v/c Ratio	0.91	0.04	0.07	0.31	0.66		0.77	0.14	0.02	0.03	0.48	
Control Delay	43.7	11.0	3.2	59.2	49.7		48.0	32.5	19.1	32.8	29.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	43.7	11.0	3.2	59.2	49.7		48.0	32.5	19.1	32.8	29.8	
LOS	D	B	A	E	D		D	C	B	C	C	
Approach Delay		36.4			50.6			42.8			29.9	
Approach LOS		D			D			D			C	

Intersection Summary




















Cycle Length: 120
 Actuated Cycle Length: 101.3
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 40.0
 Intersection Capacity Utilization 75.9%
 Analysis Period (min) 15

Intersection LOS: D
 ICU Level of Service D




















Splits and Phases: 32: Siempre Viva Road & Paseo De Las Americas





















 ø1	 ø2	 ø3	 ø4
10.6 s	67.3 s	21.6 s	20.5 s
 ø5	 ø6	 ø7	 ø8
20.9 s	20.9 s	11.1 s	3 s

HCM Unsignalized Intersection Capacity Analysis 33: Siempre Viva Rd & Michael Faraday Dr
3/22/2010 Existing - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	54	186	62	20	203	1	21	17	22	2	5	27
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	64	221	74	24	242	1	25	20	26	2	6	32
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)		1204			1300							
pX, platoon unblocked												
vC, conflicting volume	243			295			590	677	148	565	714	121
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	243			295			590	677	148	565	714	121
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			98			93	94	97	99	98	96
cM capacity (veh/h)	1321			1263			353	348	873	359	332	907
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2			
Volume Total	64	148	148	24	161	82	71	8	32			
Volume Left	64	0	0	24	0	0	25	2	0			
Volume Right	0	0	74	0	0	1	26	0	32			
cSH	1321	1700	1700	1263	1700	1700	449	339	907			
Volume to Capacity	0.05	0.09	0.09	0.02	0.09	0.05	0.16	0.02	0.04			
Queue Length 95th (ft)	4	0	0	1	0	0	14	2	3			
Control Delay (s)	7.9	0.0	0.0	7.9	0.0	0.0	14.5	15.9	9.1			
Lane LOS	A			A			B	C	A			
Approach Delay (s)	1.4			0.7			14.5	10.5				
Approach LOS							B	B				
Intersection Summary												
Average Delay			2.9									
Intersection Capacity Utilization			30.5%				ICU Level of Service			A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis33: Siempre Viva Road & Michael Faraday Dr 3/22/2010 Existing - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	39	46	20	17	183	5	51	15	0	1	19	52
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	43	51	22	19	201	5	56	16	0	1	21	57
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)		1218			1286							
pX, platoon unblocked												
vC, conflicting volume	207			73			353	391	36	360	399	103
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	207			73			353	391	36	360	399	103
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			99			89	97	100	100	96	94
cM capacity (veh/h)	1362			1525			508	520	1028	538	514	932
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2			
Volume Total	43	34	39	19	134	73	73	22	57			
Volume Left	43	0	0	19	0	0	56	1	0			
Volume Right	0	0	22	0	0	5	0	0	57			
cSH	1362	1700	1700	1525	1700	1700	511	515	932			
Volume to Capacity	0.03	0.02	0.02	0.01	0.08	0.04	0.14	0.04	0.06			
Queue Length 95th (ft)	2	0	0	1	0	0	12	3	5			
Control Delay (s)	7.7	0.0	0.0	7.4	0.0	0.0	13.2	12.3	9.1			
Lane LOS	A			A			B	B	A			
Approach Delay (s)	2.9			0.6			13.2	10.0				
Approach LOS							B	B				
Intersection Summary												
Average Delay			4.5									
Intersection Capacity Utilization			28.8%				ICU Level of Service			A		
Analysis Period (min)			15									

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.917			0.993			0.987			0.944	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	1708	0	1863	3514	0	1770	3493	0	1863	3341	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	1708	0	1863	3514	0	1770	3493	0	1863	3341	0
Satd. Flow (RTOR)		5			5			3			16	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	174	3	4	0	80	4	9	25	2	0	21	12
Adj. Flow (vph)	226	4	5	0	104	5	12	32	3	0	27	16
Lane Group Flow (vph)	226	9	0	0	109	0	12	35	0	0	43	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Total Split (s)	22.0	33.0	0.0	15.0	26.0	0.0	15.0	27.0	0.0	15.0	27.0	0.0
Act Effct Green (s)	9.1	16.9			7.9		7.0	21.7			20.0	
Actuated g/C Ratio	0.21	0.39			0.18		0.15	0.55			0.51	
v/c Ratio	0.32	0.01			0.17		0.05	0.02			0.03	
Control Delay	12.7	4.4			13.3		18.3	10.1			11.8	
Queue Delay	0.0	0.0			0.0		0.0	0.0			0.0	
Total Delay	12.7	4.4			13.3		18.3	10.1			11.8	
LOS	B	A			B		B	B			B	
Approach Delay		12.4			13.3			12.2			11.8	
Approach LOS		B			B			B			B	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 39.6

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.32

Intersection Signal Delay: 12.6

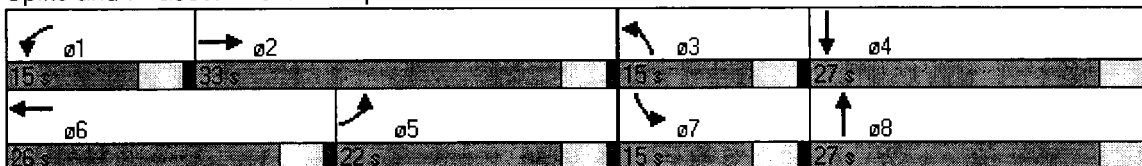
Intersection Capacity Utilization 25.5%





















Analysis Period (min) 15

Intersection LOS: B

ICU Level of Service A

Splits and Phases: 34: Siempre Viva Rd & Enrico Fermi Dr



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.872			0.953			0.998			0.863	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1624	0	1770	3373	0	1770	3532	0	1770	3054	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1624	0	1770	3373	0	1770	3532	0	1770	3054	0
Satd. Flow (RTOR)		23			11			2			809	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	14	4	22	11	23	11	146	122	2	3	4	40
Adj. Flow (vph)	15	4	23	11	24	11	152	127	2	3	4	42
Lane Group Flow (vph)	15	27	0	11	35	0	152	129	0	3	46	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Total Split (s)	13.5	26.8	0.0	13.5	26.8	0.0	24.2	36.2	0.0	13.5	25.5	0.0
Act Effct Green (s)	6.6	6.9		6.8	7.1		11.4	49.8		6.5	33.3	
Actuated g/C Ratio	0.10	0.11		0.10	0.11		0.19	0.83		0.10	0.56	
v/c Ratio	0.05	0.14		0.06	0.09		0.45	0.04		0.02	0.02	
Control Delay	26.5	14.8		26.9	18.9		21.9	4.5		27.0	0.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	26.5	14.8		26.9	18.9		21.9	4.5		27.0	0.0	
LOS	C	B		C	B		C	A		C	A	
Approach Delay		19.0			20.8			13.9			1.7	
Approach LOS		B			C			B			A	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 59.7

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.45

Intersection Signal Delay: 13.7

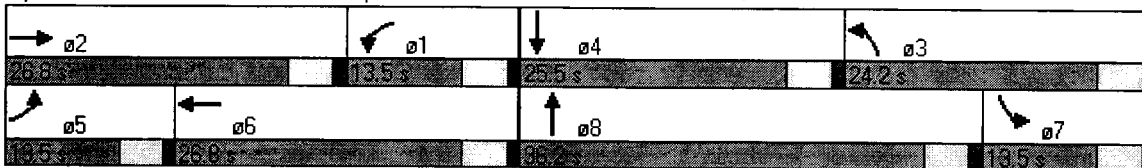
Intersection LOS: B

Intersection Capacity Utilization 28.7%

ICU Level of Service A










Analysis Period (min) 15

Splits and Phases: 34: Siempre Viva Road & Enrico Fermi Dr












4/14/2010

65: Calzada De La Fuente & Alta Rd
Existing - AM

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	3	0	620	19	0	164
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	0	674	21	0	178
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL					
Median storage (veh)	1					
Upstream signal (ft)			1290			
pX, platoon unblocked	0.94	0.94			0.94	
vC, conflicting volume	862	684			695	
vC1, stage 1 conf vol	684					
vC2, stage 2 conf vol	178					
vCu, unblocked vol	853	663			674	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	400	432			858	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	3	695	178			
Volume Left	3	0	0			
Volume Right	0	21	0			
cSH	400	1700	858			
Volume to Capacity	0.01	0.41	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	14.1	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	14.1	0.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization		43.8%		ICU Level of Service		A
Analysis Period (min)		15				

4/14/2010

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	7	0	98	2	0	499
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	0	107	2	0	542
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL					
Median storage veh	1					
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	650	108			109	
vC1, stage 1 conf vol	108					
vC2, stage 2 conf vol	542					
vCu, unblocked vol	650	108			109	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			100	
cM capacity (veh/h)	500	946			1482	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	8	109	542			
Volume Left	8	0	0			
Volume Right	0	2	0			
cSH	500	1700	1482			
Volume to Capacity	0.02	0.06	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	12.3	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	12.3	0.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization		36.3%		ICU Level of Service		A
Analysis Period (min)		15				

	↖	↗	↑	↘	↙	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↑		↘	↓
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr't		0.850	0.996			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1855	0	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	1855	0	1770	1863
Satd. Flow (RTOR)		6	2			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	6	5	634	19	1	166
Adj. Flow (vph)	8	6	813	24	1	213
Lane Group Flow (vph)	8	6	837	0	1	213
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Total Split (s)	25.0	25.0	51.0	0.0	14.0	65.0
Act Effct Green (s)	6.5	6.5	109.4		6.2	111.8
Actuated g/C Ratio	0.05	0.05	0.95		0.05	0.97
v/c Ratio	0.09	0.07	0.48		0.01	0.12
Control Delay	29.5	18.2	2.9		29.0	0.6
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	29.5	18.2	2.9		29.0	0.6
LOS	C	B	A		C	A
Approach Delay	24.7		2.9			0.7
Approach LOS	C		A			A

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 115.3

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 2.7

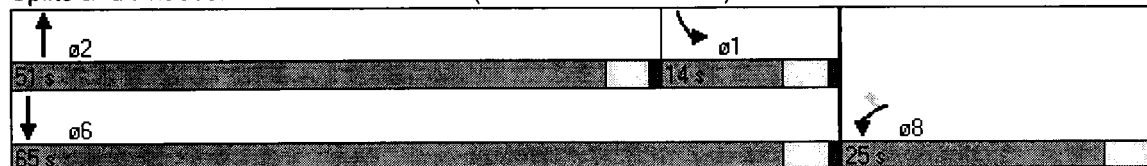
Intersection Capacity Utilization 44.5%

Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service A

Splits and Phases: 67: Lone Star Rd (Paseo De La Fuente) & Alta Rd



	↖	↗	↑	↘	↙	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↑		↘	↓
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.996			
Flt Protected	0.950					
Satd. Flow (prot)	1770	1583	1855	0	1863	1863
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1583	1855	0	1863	1863
Satd. Flow (RTOR)		2	2			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	221	2	98	3	0	506
Adj. Flow (vph)	273	2	121	4	0	625
Lane Group Flow (vph)	273	2	125	0	0	625
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Total Split (s)	37.0	37.0	35.0	0.0	18.0	53.0
Act Effct Green (s)	12.7	12.7	24.8			24.8
Actuated g/C Ratio	0.28	0.28	0.54			0.54
v/c Ratio	0.55	0.00	0.12			0.62
Control Delay	18.2	10.5	6.5			11.4
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	18.2	10.5	6.5			11.4
LOS	B	B	A			B
Approach Delay	18.2		6.5			11.4
Approach LOS	B		A			B

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 45.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 12.6

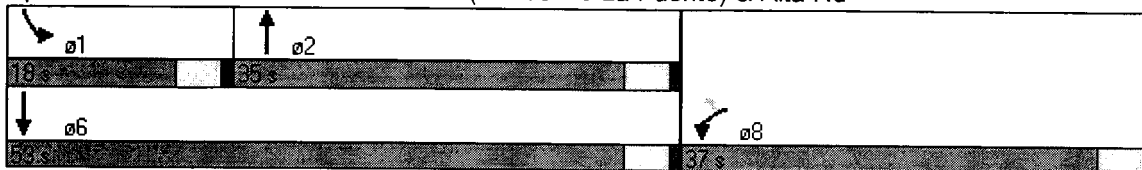
Intersection Capacity Utilization 45.5%

Analysis Period (min) 15

Intersection LOS: B

ICU Level of Service A

Splits and Phases: 67: Lone Star Rd (Paseo De La Fuente) & Alta Rd



Existing ILV Analysis

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

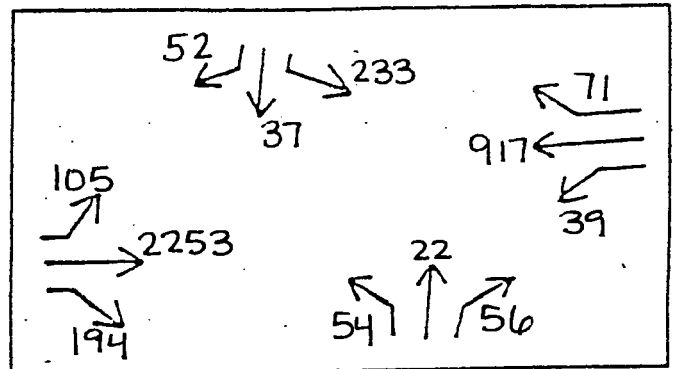
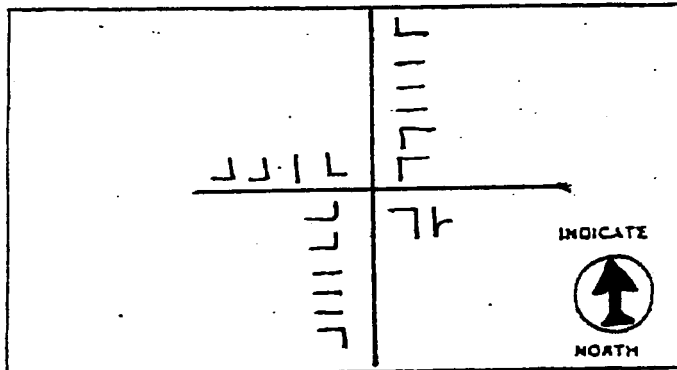
INTERSECTION Otay Mesa/Heritage
Existing Conditions

DIST. CO. RTE. P.M. 11/SD/905

BY JB DATE 3-23-10

TIME (AM) PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
100	19
53	20
52	

Phase 2	
51	305
306	306
751	174

Phase 3	
233	20
54	

Phase 4	
37	78
16	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
53

Phase 2
751

Phase 3
233

Phase 4
78

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,115

Is . . . ☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Heritage

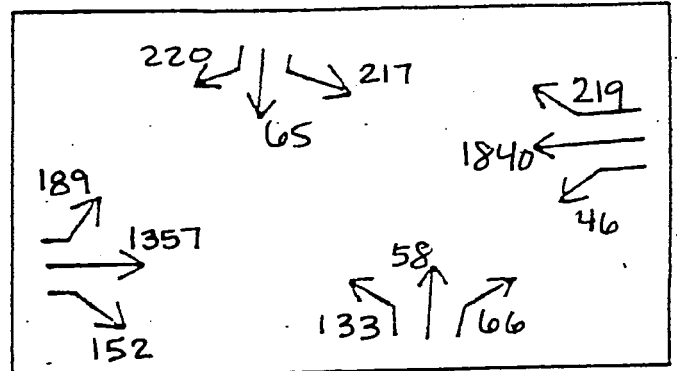
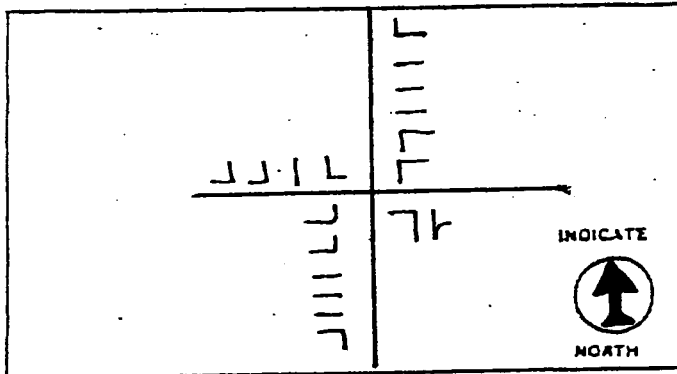
DIST. CO. RTE. P.M. 11/SD/905

Existing Conditions

BY JB DATE 3-23-10

TIME _____ AM (PM)

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
NN 00 JJ	└┐ 23 └┐ 23
95└ 94└	

Phase 2	
	└┐ 169 └┐ 613 └┐ 613 └┐ 614
453└ 452└ 452└ 102└	

Phase 3	
217└	└┐ 50
50└	└┐ 133

Phase 4	
888 JJJ	
	└┐ 124

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
95

Phase 2
613

Phase 3
217

Phase 4
124

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,049

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / Cactus

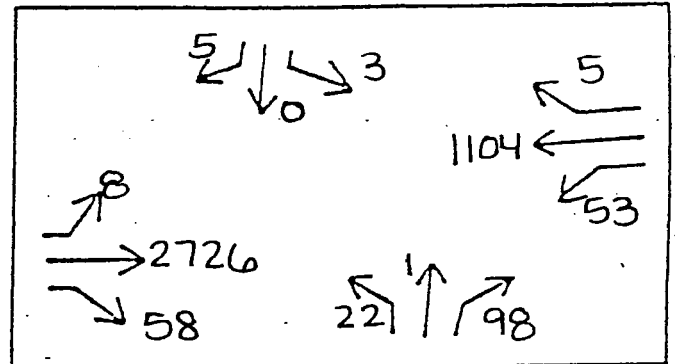
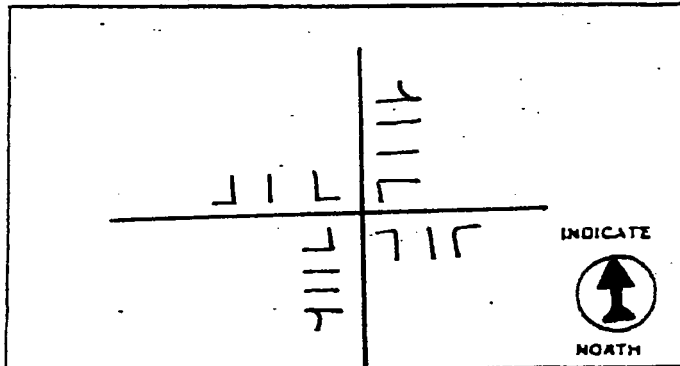
DIST. CO. RTE. P.M. 11 / SD / 905

Existing Conditions

BY LB DATE 3-23-10

TIME AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
N ↓ 53	8 ↓ 0

Phase 2	
373 - 368 - 368	909 - 909 - 966

Phase 3	
W ↓ 22	

Phase 4	
W ↓ 11	1 - 88

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
53

Phase 2
966

Phase 3
22

Phase 4
88

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,129

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

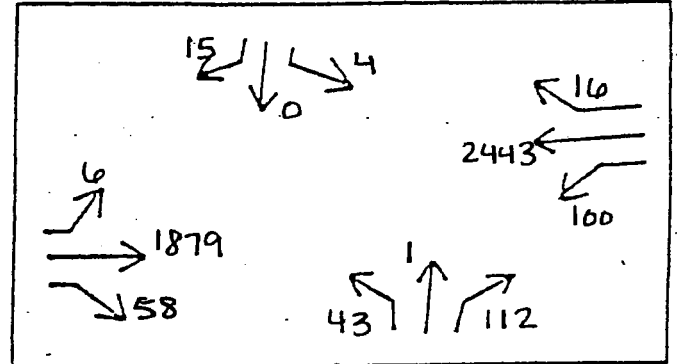
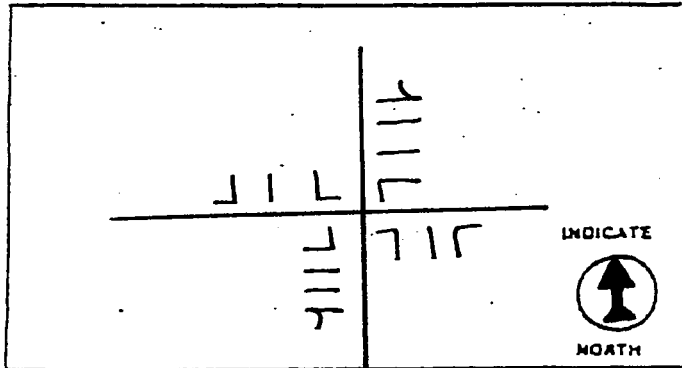
INTERSECTION Otay Mesa / Cactus
Existing Conditions

DIST. CO. RTE. P.M. 11 / SD / 905

BY LB DATE 3-23-10

TIME _____ AM (PM)

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
9	100
6	0

Phase 2	
830	
814	
815	
627	
626	
684	

Phase 3	
43	

Phase 4	
50	
11	
1	82

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
100

Phase 2
830

Phase 3
43

Phase 4
82

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,055

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

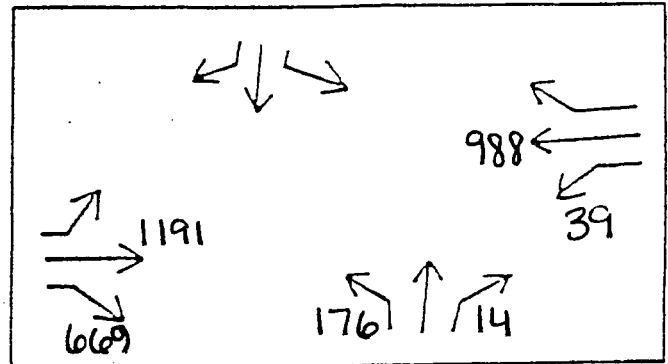
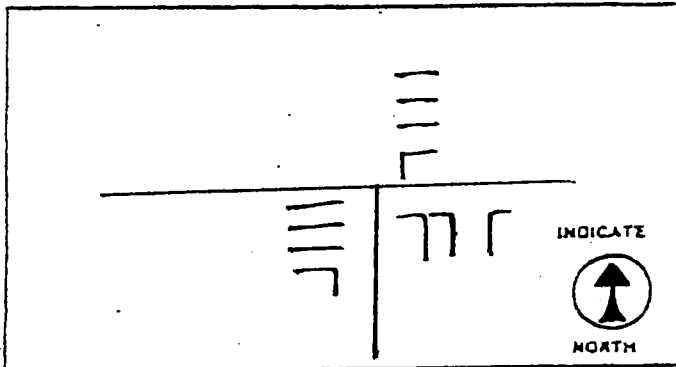
INTERSECTION Otay Mesa Rd / Britannia Blvd DIST. CO. RTE. P.M. 11/SD/905

Existing Conditions

BY VJB DATE 3-23-10

TIME (AM) PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
—	39
—	39
—	39
└	39

Phase 2	
—	290
—	291
—	290
397	—
397	—
397	—
397	└

Phase 3	
272	└
	└
	└
	└

Phase 4	
---------	--

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
39

Phase 2
397

Phase 3
272

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
708

Is . . . ☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

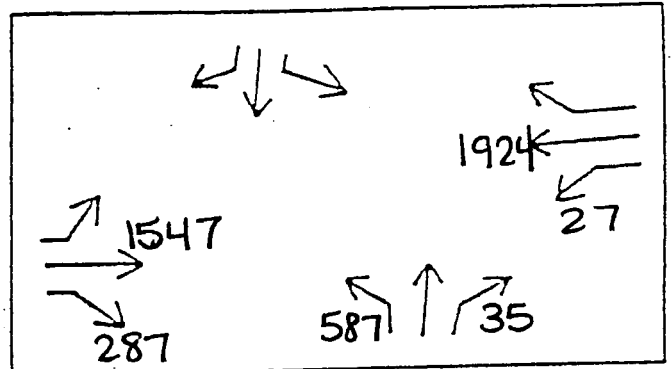
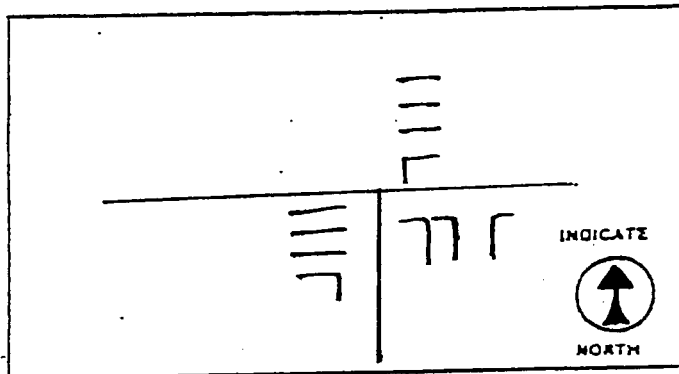
INTERSECTION Otay Mesa Rd / Britannia Blvd DIST. CO. RTE. P.M. 11/SD/905

Existing Conditions

BY VB DATE 3-23-10

TIME AM (PM)

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
— 27	
— 27	
— 27	
└ 27	

Phase 2	
— 614	
— 615	
— 614	
515 —	
516 —	
516 —	
187 └	

Phase 3	
100 └	└ 294
	└ 294
	└ 35

Phase 4	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
27

Phase 2
615

Phase 3
294

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
936

Is . . . ☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

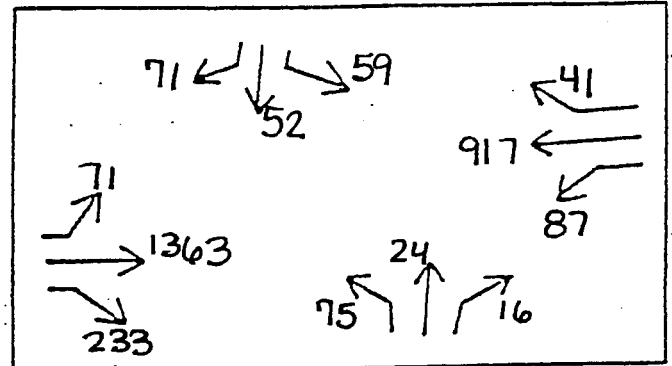
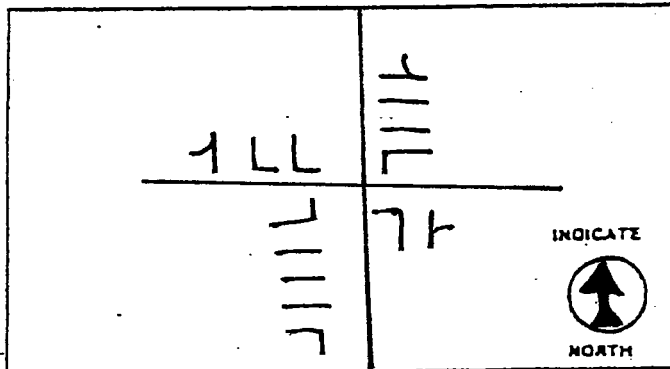
INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa Rd/La Media Rd DIST. CO. RTE. P.M. 11/SD/905
 Existing Conditions BY JB DATE 3-23-10
 TIME AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
<div>87</div> <div>71</div>	<div>346</div> <div>306</div> <div>306</div> <div>454</div> <div>454</div> <div>455</div> <div>233</div>	<div>307</div> <div>297</div> <div>75</div>	<div>123</div> <div>87</div>

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
87	455	75	123

TOTAL OPERATING LEVEL (ILV/hr):

Σ
740

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

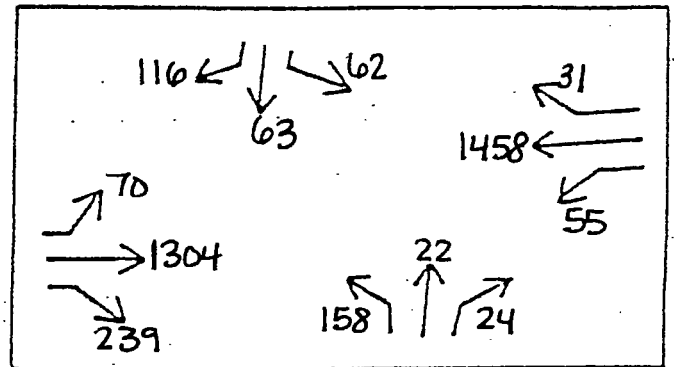
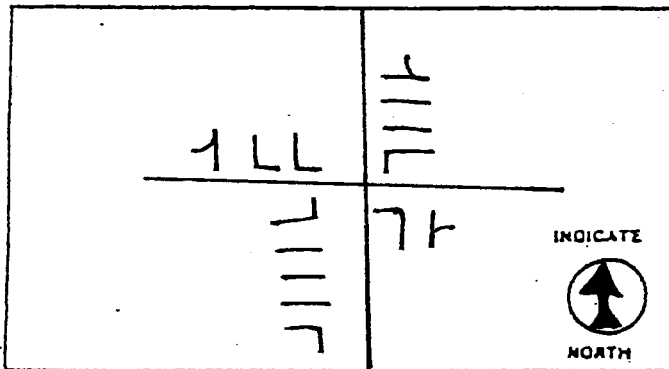
INTERSECTION Otay Mesa Rd/La Media Rd DIST. CO. RTE. P.M. 11/SD/905

Existing Conditions

BY JB DATE 3-23-10

TIME _____ AM (PM)

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
	55
70	

Phase 2	
	517 486 486
435 435 434 239	

Phase 3	
158	

Phase 4	
179	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
70

Phase 2
517

Phase 3
158

Phase 4
179

TOTAL OPERATING LEVEL (ILV/hr):

Σ
924

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Piper Ranch

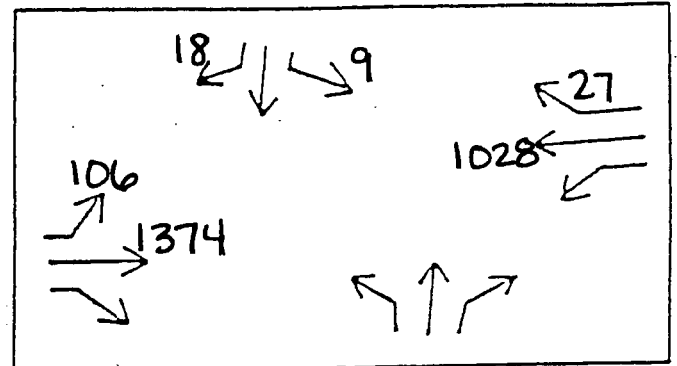
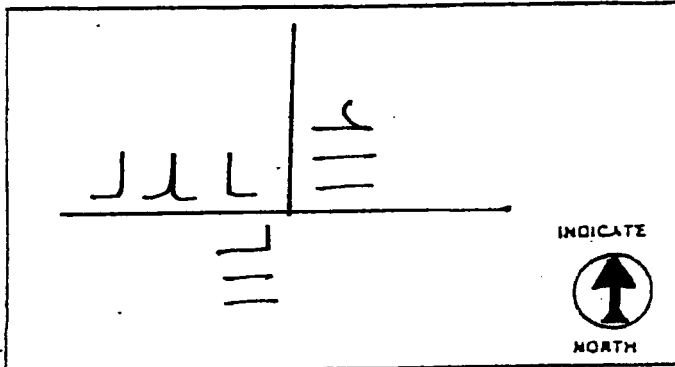
DIST. CO. RTE. P.M. 11/SD/905

Existing Conditions

BY JB DATE 3-23-10

TIME AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
106	└
106	—
106	—

Phase 2	
581	—
581	—
	└ 351
	— 352
	— 352

Phase 3	
006	└
006	—
006	—

Phase 4	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
106

Phase 2
581

Phase 3
9

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
696

Is . . . ☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Piper Ranch

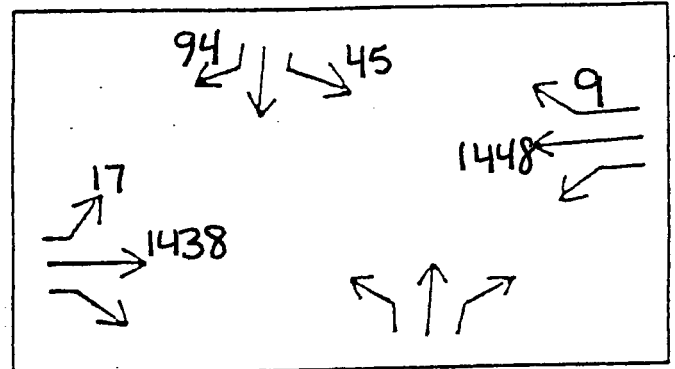
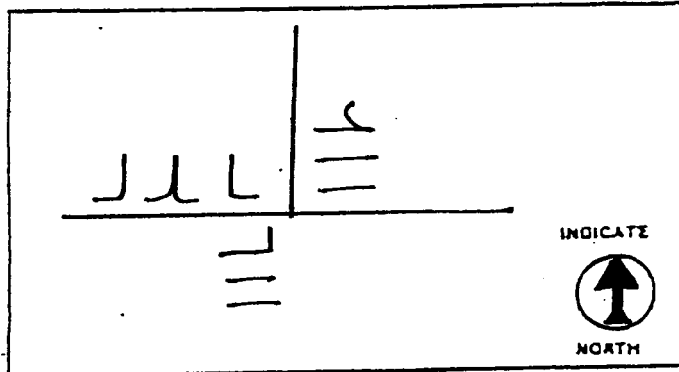
DIST. CO. RTE. P.M. 11/SD/905

BY JB DATE 3-23-10

TIME AM (PM)

Existing Conditions

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
<div style="display: flex; justify-content: space-between;"> <div> <div style="text-align: center;">17</div> <div style="text-align: center;">17</div> <div style="text-align: center;">17</div> </div> <div> <div style="text-align: center;">485</div> <div style="text-align: center;">486</div> <div style="text-align: center;">486</div> </div> </div>	<div style="text-align: center;">702</div> <div style="text-align: center;">702</div>	<div style="text-align: center;">47</div> <div style="text-align: center;">47</div> <div style="text-align: center;">47</div>	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
17	702	47	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
766

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / SR-125 SB Ramp

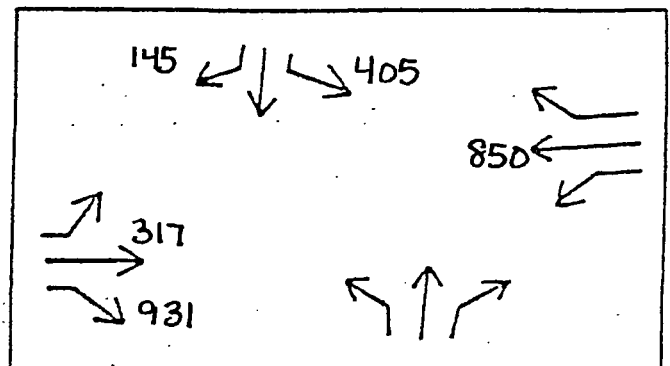
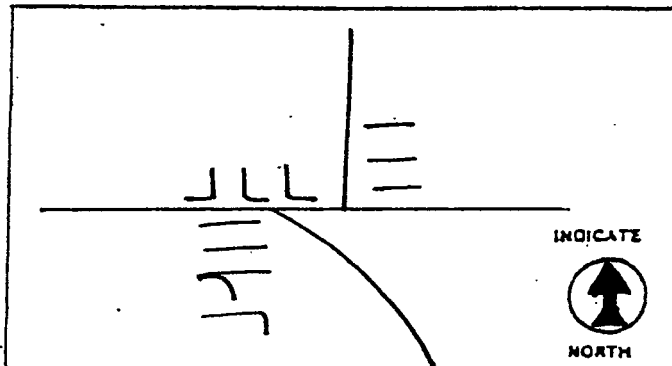
DIST. CO. RTE. P.M. 11/SD/905

Existing Conditions

BY JK DATE 3-23-10

TIME AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
—	284
—	283
—	283
106	—
106	—
498	—
393	—

Phase 2	
145	203
202	203
—	—
—	—
1245	—

Phase 3	

Phase 4	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
498

Phase 2
203

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
701

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / SR-125 SB Ramp

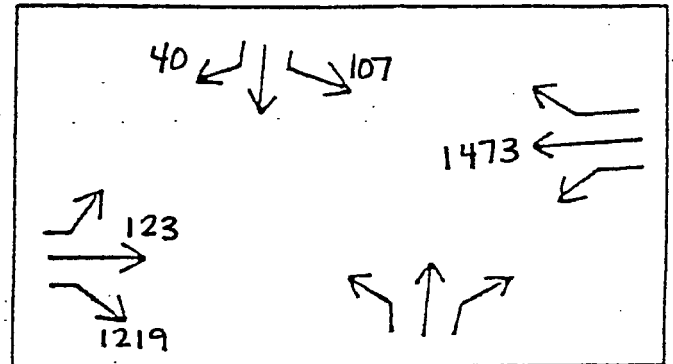
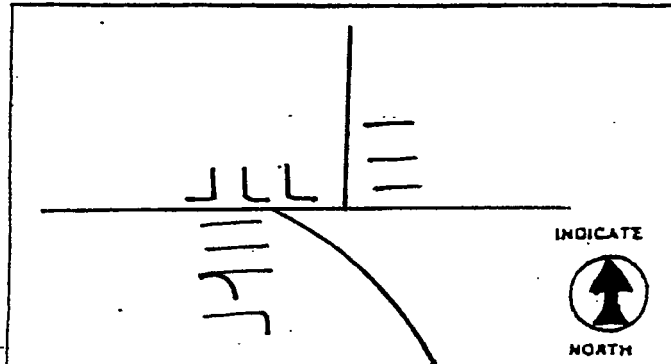
DIST. CO. RTE. P.M. 11/SD/905

Existing Conditions

BY DLR DATE 3-23-10

TIME _____ AM (PM)

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
	491
	491
	491
41	
41	
623	
583	

Phase 2	
5	5
5	5
5	5
54	

Phase 3	

Phase 4	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
623

Phase 2
54

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
677

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

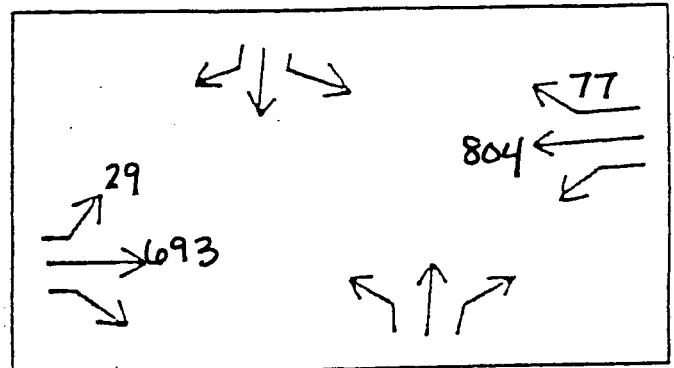
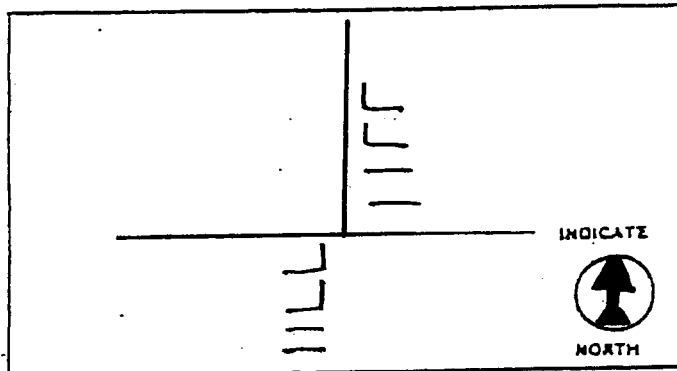
INTERSECTION Otay Mesa/SR-125 NB Ramp DIST. CO. RTE. P.M. 11/50/905

BY JLB DATE 3-23-10

Existing Conditions

TIME AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
14	11
15	11
15	11
15	11

Phase 2	
L	38
L	39
—	402
—	402
331	—
332	—

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
15

Phase 2
402

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
417

Is . . . ☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/SR-125 NB Ramp

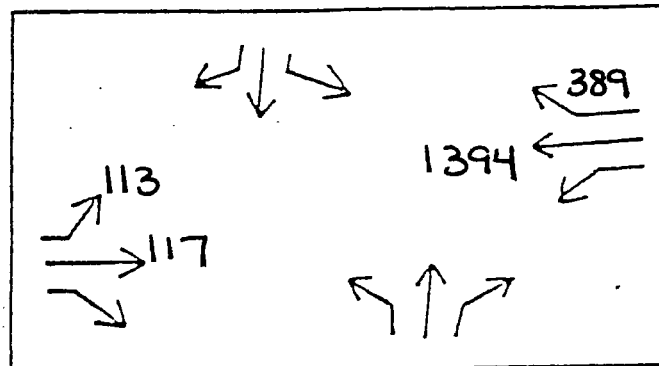
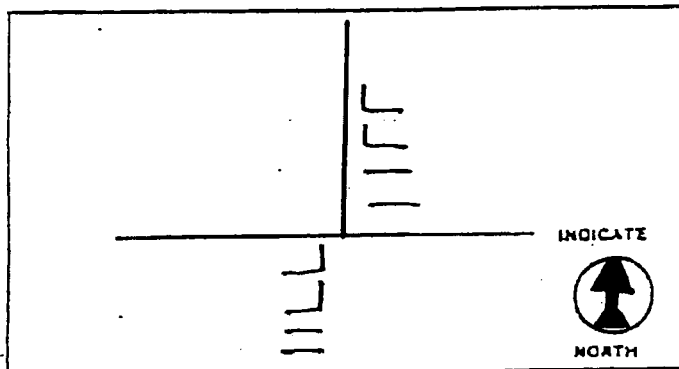
DIST. CO. RTE. P.M. 11/50/905

Existing Conditions

BY JLB DATE 3-23-10

TIME _____ AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
56	└
57	└
30	└
29	└

Phase 2	
	└ 194
	└ 195
	└ 697
	└ 697
29	—
29	—

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
57

Phase 2
697

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
754

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection CAPACITY ANALYSIS

INTERSECTION Otay Mesa / SR-905 NB
Connector

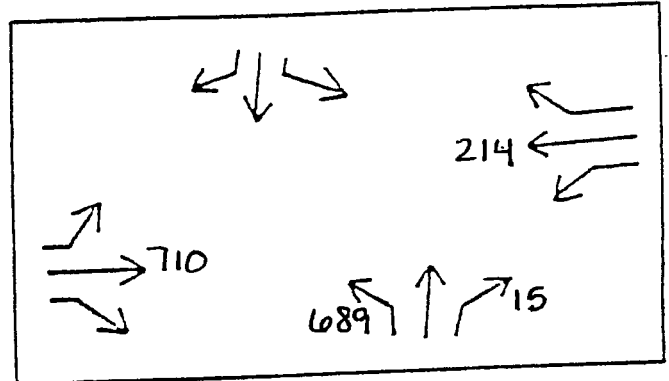
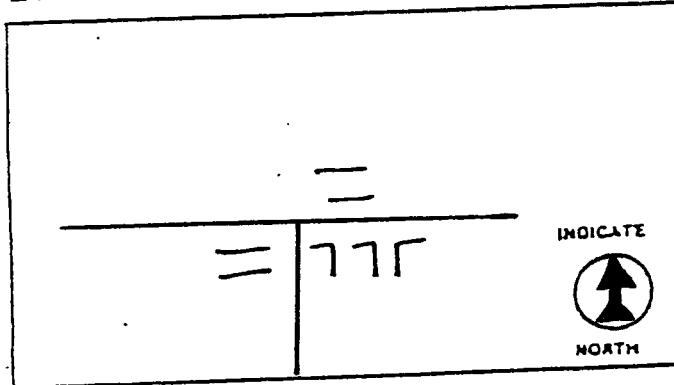
DIST. CO. RTE. P.M. 11/5D/905

BY JLB DATE 3-23-10

Existing Conditions

TIME (AM) PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
— 107	
— 107	
355 —	
355 —	

Phase 2	
	777
	777
	777

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
355

Phase 2
345

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
700

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / SR-905 NB
Connector

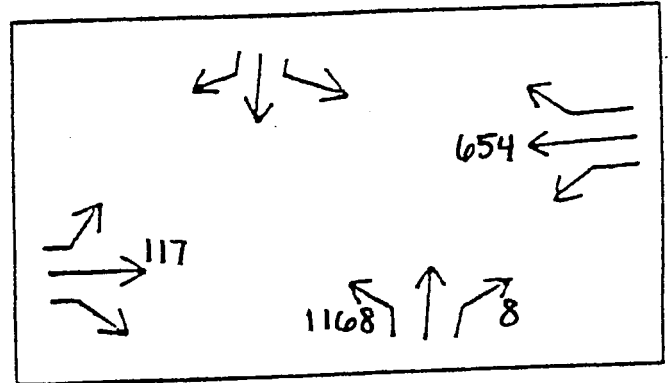
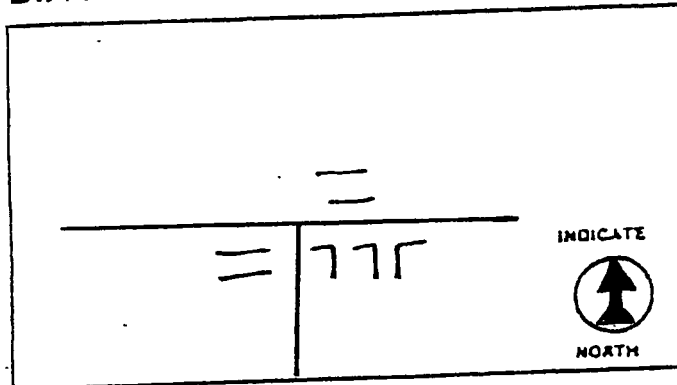
DIST. CO. RTE. P.M. 11/5D/905

Existing Conditions

BY JB DATE 3-23-10

TIME _____ AM (PM)

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
— 327	
— 327	
59 —	
58 —	

Phase 2	
775	
59 51 00	
58 51	

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
327

Phase 2
584

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
911

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SR-905 SB
Ramp

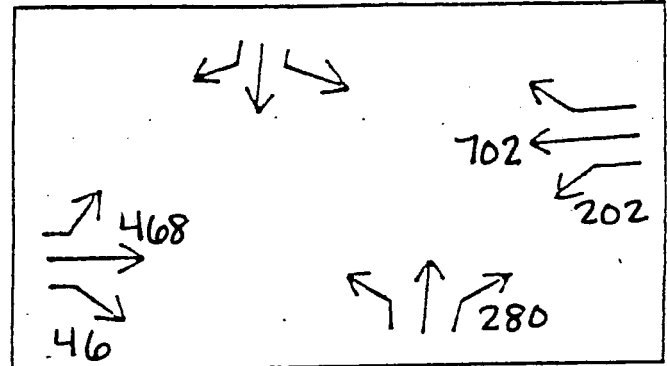
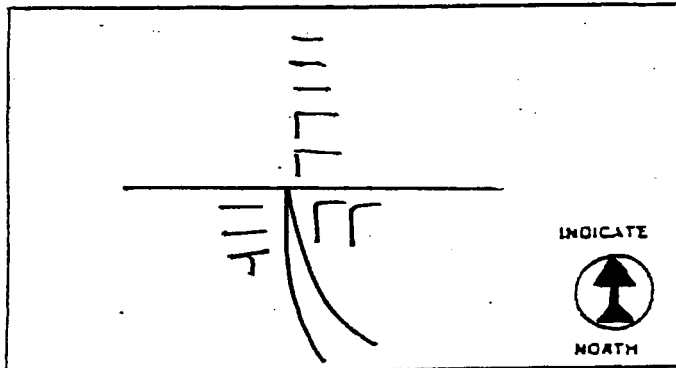
DIST. CO. RTE. P.M. 11 / SD / 905

BY JB DATE 3-23-10

TIME (AM) PM

Existing Conditions

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1
101
101
101
101
101
101

Phase 2
67
67
66
171
172
171

Phase 3
66
67
66
90
90

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
101

Phase 2
172

Phase 3
90

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
363

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SR-905 SB
Ramp

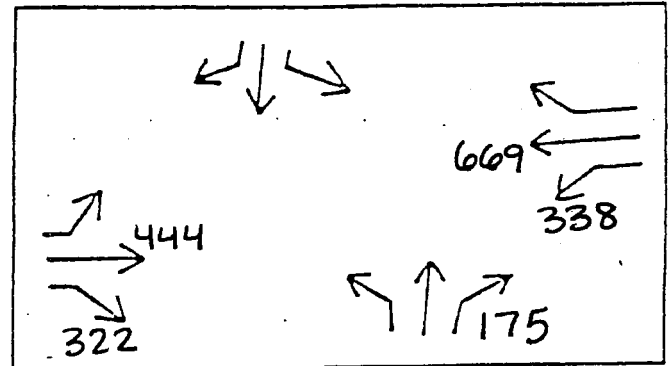
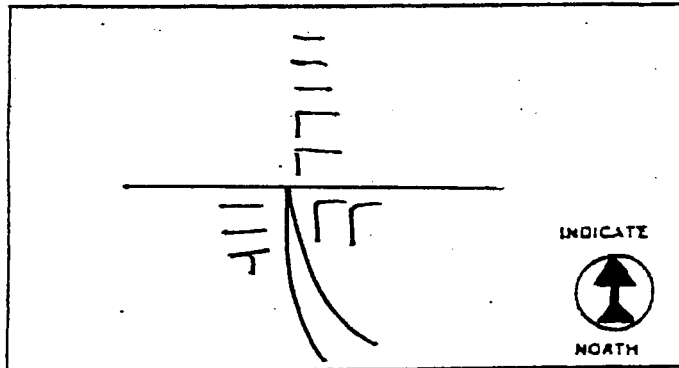
DIST. CO. RTE. P.M. 11 / SD / 905

Existing Conditions

BY DB DATE 3-23-10

TIME AM (PM)

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1
— 169
— 169
— 169
└ 169
└ 169

Phase 2
— 16
— 16
— 16
255 —
256 —
255 T

Phase 3
— 38
— 38
— 38
└ 38
└ 38

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
169

Phase 2
256

Phase 3
38

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
463

Is . . . ☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SR-905 NB
Ramp

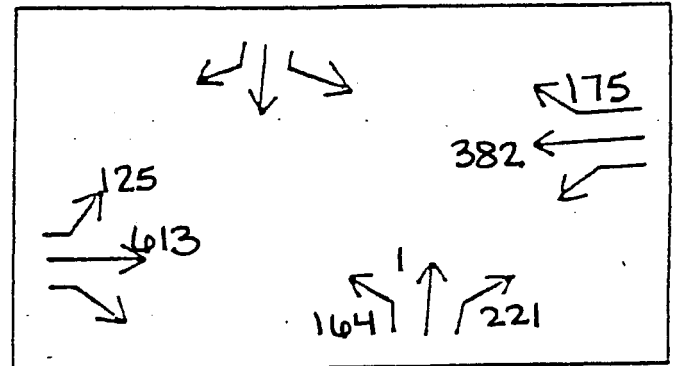
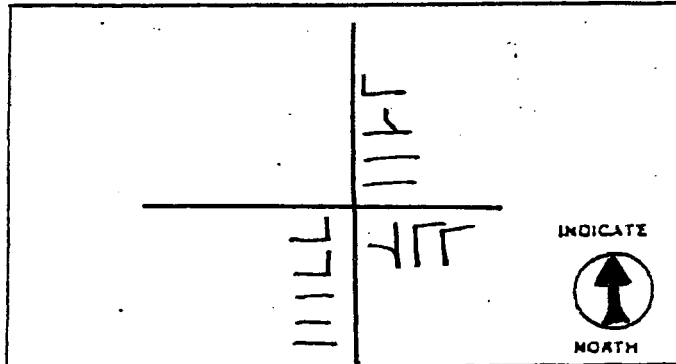
DIST. CO. RTE. P.M. 11/SD/905

BY OLB DATE 3-23-10

TIME AM PM

Existing Conditions

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
62	└
63	└
63	
63	

Phase 2	
125	└
144	└
144	
144	
63	—
63	—
63	—

Phase 3	
165	└
60	
60	

Phase 4	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
63

Phase 2
144

Phase 3
165

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
372

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION Signalized Intersection CAPACITY ANALYSIS

INTERSECTION Siemore Villa / S2-905 NB
Ramp

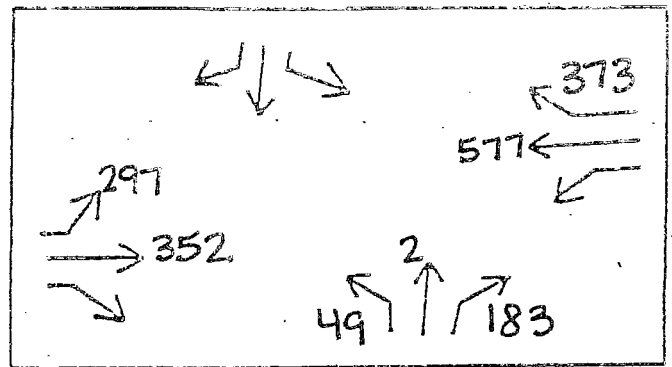
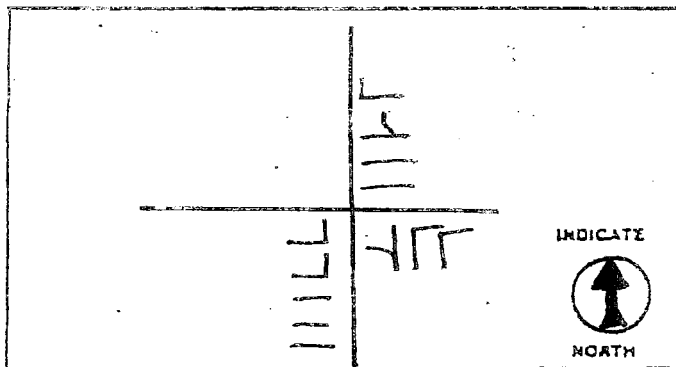
DIST. COL. RTE. P.M. 11/50 904

BY QRB DATE 3-23-10

TIME _____ AM (PM)

Existing Conditions

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
<div> <div>149</div> <div>148</div> <div>59</div> <div>59</div> <div>58</div> </div>	<div> <div>223</div> <div>242</div> <div>242</div> <div>242</div> </div> <div> <div>59</div> <div>59</div> <div>58</div> </div>	<div> <div>151</div> <div>166</div> <div>166</div> </div>	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
149	242	92	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
483

IS . . .

☐ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

APPENDIX E

- Existing + Project Unit 1 Arterial Synchro Analysis Worksheets
 - Existing + Project Unit 1 Synchro Analysis Worksheets
 - Existing + Project Unit 1 Intersection ILV Analysis

Existing + Project Unit 1 Arterial Synchro Analysis Worksheets

Arterial Level of Service: EB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Heritage Road	II	45	28.4	26.6	55.0	0.27	17.9	D
Cactus Rd	II	45	44.7	8.4	53.1	0.51	34.4	B
Brittania Blvd	II	45	45.5	17.5	63.0	0.52	29.5	B
La Media	II	45	83.0	5.3	88.3	1.04	42.3	A
Piper Ranch Rd	II	45	44.3	4.5	48.8	0.50	37.2	A
	II	45	25.6	6.7	32.3	0.25	27.4	C
SR125 NB Ramp	II	45	14.8	0.4	15.2	0.14	32.1	B
SR905	II	45	15.0	9.6	24.6	0.14	20.1	D
Sanyo Ave	II	45	27.8	2.2	30.0	0.27	32.1	B
Enrico Fermi Dr	II	45	62.8	32.6	95.4	0.78	29.6	B
Total	II		391.9	113.8	505.7	4.41	31.4	B

Arterial Level of Service: WB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Enrico Fermi Dr	II	45	43.2	2.5	45.7	0.49	38.7	A
Sanyo Ave	II	45	62.8	1.8	64.6	0.78	43.7	A
SR905	II	45	27.8	7.7	35.5	0.27	27.1	C
SR125 NB Ramp	II	45	15.0	2.6	17.6	0.14	28.2	B
SR125 SB	II	45	14.8	14.6	29.4	0.14	16.6	E
Piper Ranch Rd	II	45	25.6	2.9	28.5	0.25	31.1	B
La Media	II	45	44.3	11.1	55.4	0.50	32.7	B
Brittania Blvd	II	45	83.0	3.0	86.0	1.04	43.5	A
Cactus Rd	II	45	45.5	2.4	47.9	0.52	38.9	A
Heritage Road	II	45	44.7	14.6	59.3	0.51	30.8	B
Total	II		406.7	63.2	469.9	4.63	35.5	A

























Arterial Level of Service: EB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Heritage Road	II	45	28.4	18.2	46.6	0.27	21.1	D
Cactus Rd	II	45	44.7	16.6	61.3	0.51	29.8	B
Brittania Blvd	II	45	45.5	6.2	51.7	0.52	36.0	A
La Media	II	45	83.0	24.1	107.1	1.04	34.9	B
Piper Ranch Rd	II	45	43.8	3.8	47.6	0.50	37.7	A
	II	45	26.2	0.9	27.1	0.25	33.5	B
SR125 NB Ramp	II	45	14.7	0.1	14.8	0.14	32.9	B
SR905	II	45	15.0	11.2	26.2	0.14	18.9	D
Sanyo Ave	II	45	27.8	9.6	37.4	0.27	25.7	C
Enrico Fermi Rd	II	45	62.8	8.0	70.8	0.78	39.9	A
Total	II		391.9	98.7	490.6	4.41	32.4	B

Arterial Level of Service: WB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Enrico Fermi Rd	II	45	43.2	11.2	54.4	0.49	32.5	B
Sanyo Ave	II	45	62.8	24.0	86.8	0.78	32.5	B
SR905	II	45	27.8	25.0	52.8	0.27	18.2	D
SR125 NB Ramp	II	45	15.0	3.2	18.2	0.14	27.2	C
SR125 SB	II	45	14.7	1.2	15.9	0.14	30.6	B
Piper Ranch Rd	II	45	26.2	2.8	29.0	0.25	31.3	B
La Media	II	45	43.8	23.7	67.5	0.50	26.6	C
Brittania Blvd	II	45	83.0	14.9	97.9	1.04	38.2	A
Cactus Rd	II	45	45.5	3.9	49.4	0.52	37.7	A
Heritage Road	II	45	44.7	31.4	76.1	0.51	24.0	C
Total	II		406.7	141.3	548.0	4.63	30.4	B

Existing + Project Unit 1 Synchro Analysis Worksheets

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Fr _t			0.850			0.850		0.889				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4803	1583	3433	4803	1583	1770	1656	0	1770	1863	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4803	1583	3433	4803	1583	1770	1656	0	1770	1863	2787
Satd. Flow (RTOR)			199			82		43				58
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	105	2669	194	41	1021	73	54	22	63	240	37	52
Adj. Flow (vph)	118	2999	218	46	1147	82	61	25	71	270	42	58
Lane Group Flow (vph)	118	2999	218	46	1147	82	61	96	0	270	42	58
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot			Prot		pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases			2			6						4
Total Split (s)	15.2	122.0	22.5	8.5	115.3	27.0	22.5	22.5	0.0	27.0	27.0	15.2
Act Effct Green (s)	11.4	126.4	155.4	4.5	117.8	144.8	25.0	11.8		23.0	9.8	21.2
Actuated g/C Ratio	0.06	0.70	0.86	0.02	0.65	0.80	0.14	0.07		0.13	0.05	0.12
v/c Ratio	0.54	0.89	0.16	0.53	0.36	0.06	0.25	0.64		1.19	0.41	0.15
Control Delay	91.2	26.6	0.6	105.1	14.6	0.9	71.4	64.3		184.9	93.5	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	91.2	26.6	0.6	105.1	14.6	0.9	71.4	64.3		184.9	93.5	10.2
LOS	F	C	A	F	B	A	E	E		F	F	B
Approach Delay		27.2			17.0			67.0			147.1	
Approach LOS		C			B			E			F	

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.19

Intersection Signal Delay: 34.5










Intersection LOS: C
























Intersection Capacity Utilization 78.2%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Otay Mesa Road & Heritage Road

								
ø2	ø5	ø6	ø4	ø7	ø3	ø8		
122 s	15.2 s	115.3 s	8.5 s	27 s	22.5 s	22.5 s		

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frnt			0.850			0.850		0.919				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4803	1583	3433	4803	1583	1770	1712	0	1770	1863	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4803	1583	3433	4803	1583	1770	1712	0	1770	1863	2787
Satd. Flow (RTOR)			157			233		26				93
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	189	1524	152	53	2230	226	133	58	69	220	65	220
Adj. Flow (vph)	195	1571	157	55	2299	233	137	60	71	227	67	227
Lane Group Flow (vph)	195	1571	157	55	2299	233	137	131	0	227	67	227
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot			Prot		pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases			2			6						4
Total Split (s)	16.0	117.4	27.4	11.1	112.5	31.0	27.4	20.5	0.0	31.0	24.1	16.0
Act Effct Green (s)	11.8	89.5	116.0	7.1	81.8	104.6	25.2	13.5		22.8	11.2	22.9
Actuated g/C Ratio	0.08	0.61	0.79	0.05	0.56	0.71	0.17	0.09		0.16	0.08	0.16
v/c Ratio	0.71	0.54	0.12	0.34	0.86	0.19	0.45	0.72		0.82	0.47	0.44
Control Delay	84.9	18.2	0.5	83.4	31.4	0.7	65.3	79.0		87.1	84.0	24.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	84.9	18.2	0.5	83.4	31.4	0.7	65.3	79.0		87.1	84.0	24.9
LOS	F	B	A	F	C	A	E	E		F	F	C
Approach Delay		23.5			29.7			72.0			59.6	
Approach LOS		C			C			E			E	

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 146.8

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 32.5













Intersection LOS: C























Intersection Capacity Utilization 81.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Otay Mesa Road & Heritage Road

					
11.1 s	117.4 s		24.1 s	27.4 s	
					
16 s	112.5 s		20.5 s	31 s	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.997			0.999				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4793	0	1770	4799	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4793	0	1770	4799	0	1770	1863	1583	1770	1863	1583
Satd. Flow (RTOR)		4			1				29			117
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	8	3163	58	55	1213	5	22	1	105	3	0	5
Adj. Flow (vph)	9	3476	64	60	1333	5	24	1	115	3	0	5
Lane Group Flow (vph)	9	3540	0	60	1338	0	24	1	115	3	0	5
Turn Type	Prot			Prot			Prot		pm+ov	Prot		pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases									8			4
Total Split (s)	8.5	134.5	0.0	15.0	141.0	0.0	10.0	22.0	15.0	8.5	20.5	8.5
Act Effct Green (s)	7.1	151.3		12.9	162.7		7.9	6.2	19.0	4.5		7.1
Actuated g/C Ratio	0.04	0.84		0.07	0.90		0.04	0.03	0.11	0.02		0.04
v/c Ratio	0.13	0.88		0.47	0.31		0.31	0.02	0.60	0.07		0.03
Control Delay	90.9	8.4		91.9	2.4		92.4	84.0	68.2	89.0		0.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Total Delay	90.9	8.4		91.9	2.4		92.4	84.0	68.2	89.0		0.4
LOS	F	A		F	A		F	F	E	F		A
Approach Delay		8.6			6.3			72.4				
Approach LOS		A			A			E				

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 26 (14%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 9.7









Intersection LOS: A























Intersection Capacity Utilization 82.2%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 2: Otay Mesa Road & Cactus Rd

	ø1		ø2		ø4		ø4
15 s		134.5 s		10 s		20.5 s	
	ø6		ø6		ø8		ø8
8.5 s		141 s		8.5 s		22 s	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.999				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4791	0	1770	4799	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4791	0	1770	4799	0	1770	1863	1583	1770	1863	1583
Satd. Flow (RTOR)		4			1				100			55
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	6	2055	58	107	2853	16	43	1	115	4	0	15
Adj. Flow (vph)	6	2097	59	109	2911	16	44	1	117	4	0	15
Lane Group Flow (vph)	6	2156	0	109	2927	0	44	1	117	4	0	15
Turn Type	Prot			Prot			Prot		pm+ov	Prot		pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases									8			4
Total Split (s)	14.5	104.9	0.0	28.5	118.9	0.0	20.1	32.1	28.5	14.5	26.5	14.5
Act Effect Green (s)	6.7	124.6		34.5	157.1		11.1	8.7	44.4	6.5		6.7
Actuated g/C Ratio	0.04	0.69		0.19	0.87		0.06	0.05	0.25	0.04		0.04
v/c Ratio	0.09	0.65		0.32	0.70		0.40	0.01	0.25	0.06		0.13
Control Delay	86.2	16.6		59.6	3.9		90.7	82.0	13.6	85.5		2.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Total Delay	86.2	16.6		59.6	3.9		90.7	82.0	13.6	85.5		2.5
LOS	F	B		E	A		F	F	B	F		A
Approach Delay		16.8			5.9			35.0				
Approach LOS		B			A			C				

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 139 (77%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 11.2









Intersection LOS: B







Intersection Capacity Utilization 77.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 2: Otay Mesa Road & Cactus Rd

 ø2	 ø1	 ø3	 ø4
104.9 s	28.5 s	20.1 s	26.5 s
 ø5	 ø6	 ø7	 ø8
14.5 s	118.9 s	14.5 s	32.1 s

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑	↑↑↑	↑↑	↑
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Fr't		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4803	1583	1770	4803	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4803	1583	1770	4803	3433	1583
Satd. Flow (RTOR)		475				1
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	2442	669	42	1100	176	28
Adj. Flow (vph)	2873	787	49	1294	207	33
Lane Group Flow (vph)	2873	787	49	1294	207	33
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Total Split (s)	70.6	36.3	13.1	83.7	36.3	13.1
Act Effct Green (s)	85.4	106.3	8.5	95.8	16.2	27.8
Actuated g/C Ratio	0.71	0.89	0.07	0.80	0.14	0.23
v/c Ratio	0.84	0.54	0.39	0.34	0.45	0.09
Control Delay	17.5	2.1	52.7	3.0	49.8	32.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	2.1	52.7	3.0	49.8	32.4
LOS	B	A	D	A	D	C
Approach Delay	14.2			4.8	47.4	
Approach LOS	B			A	D	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 13.3





Intersection LOS: B

Intersection Capacity Utilization 58.9%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Otay Mesa Road & Britannia Blvd

 ø2	 ø1	
70.6 s	13.1 s	
 ø6	 ø8	
83.7 s	36.3 s	

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↓	↑↑↑	↓	↑
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Fr _t		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4803	1583	1770	4803	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4803	1583	1770	4803	3433	1583
Satd. Flow (RTOR)		309				7
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1728	287	40	2347	587	41
Adj. Flow (vph)	1858	309	43	2524	631	44
Lane Group Flow (vph)	1858	309	43	2524	631	44
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Total Split (s)	95.2	60.6	24.2	119.4	60.6	24.2
Act Effct Green (s)	120.9	164.7	10.1	132.9	39.1	53.2
Actuated g/C Ratio	0.67	0.92	0.06	0.74	0.22	0.30
v/c Ratio	0.58	0.21	0.43	0.71	0.85	0.09
Control Delay	6.2	0.7	94.4	14.9	78.8	36.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.2	0.7	94.4	14.9	78.8	36.6
LOS	A	A	F	B	E	D
Approach Delay	5.4			16.2	76.1	
Approach LOS	A			B	E	

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 170 (94%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 19.3

Intersection LOS: B

Intersection Capacity Utilization 68.8%




























ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Otay Mesa Road & Britannia Blvd

↖ ø1	→ ø2	
24.2 s	95.2 s	
← ø6		↗ ø8
119.4 s		60.6 s

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  					 	 	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Fr't			0.850		0.994			0.939			0.913	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4803	1583	1770	4785	0	1770	1690	0	3433	1659	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4803	1583	1770	4785	0	1770	1690	0	3433	1659	0
Satd. Flow (RTOR)			245		8			17			48	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	71	1835	233	87	1035	43	75	24	16	66	52	71
Adj. Flow (vph)	75	1932	245	92	1089	45	79	25	17	69	55	75
Lane Group Flow (vph)	75	1932	245	92	1134	0	79	42	0	69	130	0
Turn Type	Prot		pm+ov	Prot			Prot			Prot		
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Total Split (s)	11.8	66.8	13.5	17.0	72.0	0.0	13.5	25.0	0.0	11.2	22.7	0.0
Act Effct Green (s)	7.7	71.6	84.6	11.6	77.7		9.0	10.1		12.6	11.8	
Actuated g/C Ratio	0.06	0.60	0.70	0.10	0.65		0.08	0.08		0.10	0.10	
v/c Ratio	0.66	0.67	0.21	0.54	0.37		0.59	0.27		0.19	0.63	
Control Delay	55.4	5.3	0.7	62.9	11.1		72.1	39.9		48.7	45.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	55.4	5.3	0.7	62.9	11.1		72.1	39.9		48.7	45.3	
LOS	E	A	A	E	B		E	D		D	D	
Approach Delay		6.4			15.0			60.9			46.5	
Approach LOS		A			B			E			D	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 87 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 13.0









Intersection LOS: B























Intersection Capacity Utilization 64.9%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 4: Otay Mesa Road & La Media

 ø1	 ø2	 ø3	 ø4
17 s	66.8 s	13.5 s	22.7 s
 ø6	 ø5	 ø8	 ø7
72 s	11.8 s	25 s	11.2 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Frts			0.850		0.997			0.922			0.903	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4803	1583	1770	4794	0	1770	1670	0	3433	1648	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4803	1583	1770	4794	0	1770	1670	0	3433	1648	0
Satd. Flow (RTOR)			249		3			25			54	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	70	1494	239	55	1900	38	158	22	24	65	63	116
Adj. Flow (vph)	73	1556	249	57	1979	40	165	23	25	68	66	121
Lane Group Flow (vph)	73	1556	249	57	2019	0	165	48	0	68	187	0
Turn Type	Prot		pm+ov	Prot			Prot			Prot		
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Total Split (s)	15.0	71.0	25.9	22.0	78.0	0.0	25.9	30.1	0.0	16.9	21.1	0.0
Act Effct Green (s)	9.9	77.5	99.4	15.4	83.1		17.9	12.1		23.1	15.2	
Actuated g/C Ratio	0.07	0.55	0.71	0.11	0.59		0.13	0.09		0.16	0.11	
v/c Ratio	0.58	0.59	0.21	0.29	0.71		0.73	0.29		0.12	0.82	
Control Delay	81.2	24.1	1.4	59.7	23.7		76.8	39.8		47.4	70.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	81.2	24.1	1.4	59.7	23.7		76.8	39.8		47.4	70.1	
LOS	F	C	A	E	C		E	D		D	E	
Approach Delay		23.3			24.7			68.5			64.1	
Approach LOS		C			C			E			E	

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 28.5









Intersection LOS: C
















Intersection Capacity Utilization 74.0%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 4: Otay Mesa Road & La Media

 ø2	 ø1	 ø4	 ø3
71 s	22 s	21.1 s	25.9 s
 ø6	 ø5	 ø8	 ø7
78 s	15 s	30.1 s	16.9 s

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	  		 	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.91	0.91	0.97	0.91
Fr _t			0.996		0.950	0.850
Flt Protected	0.950				0.968	
Satd. Flow (prot)	1770	3539	5065	0	3323	1441
Flt Permitted	0.950				0.968	
Satd. Flow (perm)	1770	3539	5065	0	3323	1441
Satd. Flow (RTOR)			5		9	11
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	106	1853	1147	29	16	18
Adj. Flow (vph)	119	2082	1289	33	18	20
Lane Group Flow (vph)	119	2082	1322	0	27	11
Turn Type	Prot				custom	
Protected Phases	5	2	6			
Permitted Phases					4	4
Total Split (s)	22.0	64.0	42.0	0.0	26.0	26.0
Act Effct Green (s)	15.8	75.5	57.9		6.5	6.5
Actuated g/C Ratio	0.18	0.84	0.64		0.07	0.07
v/c Ratio	0.38	0.70	0.41		0.11	0.10
Control Delay	35.5	4.5	2.9		30.3	22.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	35.5	4.5	2.9		30.3	22.3
LOS	D	A	A		C	C
Approach Delay		6.2	2.9		28.0	
Approach LOS		A	A		C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 9 (10%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 5.2





Intersection LOS: A












Intersection Capacity Utilization 61.2%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 5: Otay Mesa Road & Piper Ranch Rd

 ø2	 ø4
64 s	26 s
 ø6	 ø5
42 s	22 s

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.91	0.91	0.97	0.91
Fr _t			0.999		0.926	0.850
Fl _t Protected	0.950				0.975	
Satd. Flow (prot)	1770	3539	5080	0	3263	1441
Fl _t Permitted	0.950				0.975	
Satd. Flow (perm)	1770	3539	5080	0	3263	1441
Satd. Flow (RTOR)			2		51	51
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	17	1631	1897	16	48	94
Adj. Flow (vph)	18	1773	2062	17	52	102
Lane Group Flow (vph)	18	1773	2079	0	103	51
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Total Split (s)	13.5	64.5	51.0	0.0	25.5	25.5
Act Effct Green (s)	6.9	74.6	69.8		7.4	7.4
Actuated g/C Ratio	0.08	0.83	0.78		0.08	0.08
v/c Ratio	0.13	0.60	0.53		0.33	0.31
Control Delay	40.4	3.8	2.8		24.2	16.6
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	40.4	3.8	2.8		24.2	16.6
LOS	D	A	A		C	B
Approach Delay		4.2	2.8		21.7	
Approach LOS		A	A		C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 4.1





Intersection LOS: A


















Intersection Capacity Utilization 55.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 5: Otay Mesa Road & Piper Ranch Rd

 ø2	 ø4
64.5 s	25.5 s
 ø5	 ø6
13.5 s	51 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	0.86	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt		0.957	0.850									0.850
Flt Protected										0.950		
Satd. Flow (prot)	0	4599	1362	0	5085	0	0	0	0	3433	0	1583
Flt Permitted										0.950		
Satd. Flow (perm)	0	4599	1362	0	5085	0	0	0	0	3433	0	1583
Satd. Flow (RTOR)		165	706									56
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	803	931	0	971	0	0	0	0	544	0	145
Adj. Flow (vph)	0	934	1083	0	1129	0	0	0	0	633	0	169
Lane Group Flow (vph)	0	1311	706	0	1129	0	0	0	0	633	0	169
Turn Type			Free							Prot		custom
Protected Phases		2			6					4		
Permitted Phases			Free									4
Total Split (s)	0.0	49.8	0.0	0.0	49.8	0.0	0.0	0.0	0.0	40.2	0.0	40.2
Act Effct Green (s)		60.0	90.0		60.0					22.0		22.0
Actuated g/C Ratio		0.67	1.00		0.67					0.24		0.24
v/c Ratio		0.42	0.52		0.33					0.75		0.39
Control Delay		6.7	1.0		14.6					37.1		20.3
Queue Delay		0.0	0.0		0.0					0.0		0.0
Total Delay		6.7	1.0		14.6					37.1		20.3
LOS		A	A		B					D		C
Approach Delay		4.7			14.6							
Approach LOS		A			B							

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 2 (2%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 13.4




Intersection LOS: B

Intersection Capacity Utilization 44.6%

ICU Level of Service A


















Analysis Period (min) 15

Splits and Phases: 6: Otay Mesa Road & SR125 SB

 ø2	 ø4
49.8 s	40.2 s
 ø6	
49.8 s	

040501 - Otay Crossings

Ex+Otay Crossings - Unit 1- PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	0.86	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Fr't		0.901	0.850									0.850
Flt Protected										0.950		
Satd. Flow (prot)	0	4330	1362	0	5085	0	0	0	0	3433	0	1583
Flt Permitted										0.950		
Satd. Flow (perm)	0	4330	1362	0	5085	0	0	0	0	3433	0	1583
Satd. Flow (RTOR)		662	663									15
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	318	1219	0	1928	0	0	0	0	163	0	40
Adj. Flow (vph)	0	346	1325	0	2096	0	0	0	0	177	0	43
Lane Group Flow (vph)	0	1008	663	0	2096	0	0	0	0	177	0	43
Turn Type			Free							Prot		custom
Protected Phases		2			6					4		
Permitted Phases			Free									4
Total Split (s)	0.0	64.5	0.0	0.0	64.5	0.0	0.0	0.0	0.0	25.5	0.0	25.5
Act Effct Green (s)		71.8	90.0		71.8					10.2		10.2
Actuated g/C Ratio		0.80	1.00		0.80					0.11		0.11
v/c Ratio		0.28	0.49		0.52					0.46		0.22
Control Delay		0.9	1.1		1.2					40.8		28.6
Queue Delay		0.0	0.0		0.0					0.0		0.0
Total Delay		0.9	1.1		1.2					40.8		28.6
LOS		A	A		A					D		C
Approach Delay		1.0			1.2							
Approach LOS		A			A							

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 56 (62%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 3.2




Intersection LOS: A











Intersection Capacity Utilization 61.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 6: Otay Mesa Road & SR125 SB

 ø2	 ø4
64.5 s	25.5 s
 ø6	
64.5 s	

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				129		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	29	1318	925	112	0	0
Adj. Flow (vph)	33	1515	1063	129	0	0
Lane Group Flow (vph)	33	1515	1063	129	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Total Split (s)	18.0	90.0	72.0	72.0	0.0	0.0
Act Effct Green (s)	14.1	90.0	73.6	73.6		
Actuated g/C Ratio	0.16	1.00	0.82	0.82		
v/c Ratio	0.06	0.43	0.37	0.06		
Control Delay	29.1	0.4	2.6	0.3		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	29.1	0.4	2.6	0.3		
LOS	C	A	A	A		
Approach Delay		1.0	2.4			
Approach LOS		A	A			

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 62 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.43

Intersection Signal Delay: 1.6




Intersection LOS: A















Intersection Capacity Utilization 44.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

	ø2		
90 s			
	ø6		
72 s			ø5
			18 s

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	 	 	 	 		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				570		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	113	368	1849	519	0	0
Adj. Flow (vph)	124	404	2032	570	0	0
Lane Group Flow (vph)	124	404	2032	570	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Total Split (s)	17.0	90.0	73.0	73.0	0.0	0.0
Act Effect Green (s)	9.0	90.0	73.0	73.0		
Actuated g/C Ratio	0.10	1.00	0.81	0.81		
v/c Ratio	0.36	0.11	0.71	0.24		
Control Delay	46.9	0.1	3.2	0.2		
Queue Delay	0.0	0.0	0.2	0.0		
Total Delay	46.9	0.1	3.4	0.2		
LOS	D	A	A	A		
Approach Delay		11.1	2.7			
Approach LOS		B	A			

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 33 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 4.1




Intersection LOS: A

Intersection Capacity Utilization 61.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

	ø2		
90 s			
	ø5		ø6
17 s		73 s	

040501 - Otay Crossings

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	3433	1583
Satd. Flow (RTOR)						9
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1335	0	0	370	689	15
Adj. Flow (vph)	1552	0	0	430	801	17
Lane Group Flow (vph)	1552	0	0	430	801	17
Turn Type						Perm
Protected Phases	2			6	8	
Permitted Phases						8
Total Split (s)	44.5	0.0	0.0	44.5	45.5	45.5
Act Effect Green (s)	56.0			56.0	26.0	26.0
Actuated g/C Ratio	0.62			0.62	0.29	0.29
v/c Ratio	0.71			0.20	0.81	0.04
Control Delay	9.6			7.7	35.3	8.6
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	9.6			7.7	35.3	8.6
LOS	A			A	D	A
Approach Delay	9.6			7.7	34.7	
Approach LOS	A			A	C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 76 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 16.6

Intersection LOS: B

Intersection Capacity Utilization 63.2%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 8: Otay Mesa Road & SR905

→ ø2		
44.5 s		
← ø6		↖ ø8
44.5 s		45.5 s

040501 - Otay Crossings

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘↙	↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	3433	1583
Satd. Flow (RTOR)						9
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	368	0	0	1239	1168	8
Adj. Flow (vph)	404	0	0	1362	1284	9
Lane Group Flow (vph)	404	0	0	1362	1284	9
Turn Type						Perm
Protected Phases	2			6	8	
Permitted Phases						8
Total Split (s)	39.0	0.0	0.0	39.0	51.0	51.0
Act Effct Green (s)	40.9			40.9	41.1	41.1
Actuated g/C Ratio	0.45			0.45	0.46	0.46
v/c Ratio	0.25			0.85	0.82	0.01
Control Delay	11.2			25.0	22.9	4.9
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	11.2			25.0	22.9	4.9
LOS	B			C	C	A
Approach Delay	11.2			25.0	22.8	
Approach LOS	B			C	C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 24 (27%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 22.2

Intersection LOS: C

Intersection Capacity Utilization 74.2%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 8: Otay Mesa Road & SR905

→ ø2			
39 s			
← ø6		↖ ø8	
39 s		51 s	

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑	↖↗	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.976				0.965	
Flt Protected			0.950		0.963	
Satd. Flow (prot)	3454	0	1770	1863	3358	0
Flt Permitted			0.950		0.963	
Satd. Flow (perm)	3454	0	1770	1863	3358	0
Satd. Flow (RTOR)	33				12	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1041	200	24	357	32	10
Adj. Flow (vph)	1301	250	30	446	40	12
Lane Group Flow (vph)	1551	0	30	446	52	0
Turn Type			Prot			
Protected Phases	2		1	6	3	
Permitted Phases						
Total Split (s)	45.2	0.0	21.5	66.7	23.3	0.0
Act Effct Green (s)	75.5		7.4	80.7	7.0	
Actuated g/C Ratio	0.84		0.08	0.90	0.08	
v/c Ratio	0.53		0.21	0.27	0.19	
Control Delay	2.2		41.4	1.8	33.1	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	2.2		41.4	1.8	33.1	
LOS	A		D	A	C	
Approach Delay	2.2			4.2	33.1	
Approach LOS	A			A	C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 3.4

Intersection LOS: A

Intersection Capacity Utilization 45.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

↙ ø1	→ ø2	↖ ø3
21.5 s	45.2 s	23.3 s
← ø6		
66.7 s		

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑	↖↗	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.978				0.996	
Flt Protected			0.950		0.954	
Satd. Flow (prot)	3461	0	1770	1863	3434	0
Flt Permitted			0.950		0.954	
Satd. Flow (perm)	3461	0	1770	1863	3434	0
Satd. Flow (RTOR)	30				3	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	320	54	12	1113	185	5
Adj. Flow (vph)	395	67	15	1374	228	6
Lane Group Flow (vph)	462	0	15	1374	234	0
Turn Type			Prot			
Protected Phases	2		1	6	3	
Permitted Phases						
Total Split (s)	48.4	0.0	17.5	65.9	24.1	0.0
Act Effct Green (s)	68.0		6.7	70.4	11.6	
Actuated g/C Ratio	0.76		0.07	0.78	0.13	
v/c Ratio	0.18		0.11	0.94	0.53	
Control Delay	9.6		40.4	24.0	40.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	9.6		40.4	24.0	40.2	
LOS	A		D	C	D	
Approach Delay	9.6			24.2	40.2	
Approach LOS	A			C	D	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 22.8

Intersection LOS: C

Intersection Capacity Utilization 70.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

↙ ø1	→ ø2	↖ ø3
17.5 s	48.4 s	24.1 s
← ø6		
65.9 s		

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↙	↗	↙	↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.999					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1861	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1861	0	1770	1863	1770	1583
Satd. Flow (RTOR)	1					138
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1085	11	26	244	55	117
Adj. Flow (vph)	1276	13	31	287	65	138
Lane Group Flow (vph)	1289	0	31	287	65	138
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	65.5	0.0	21.0	86.5	33.5	33.5
Act Effect Green (s)	62.1		7.6	69.1	9.1	9.1
Actuated g/C Ratio	0.72		0.08	0.80	0.11	0.11
v/c Ratio	0.96		0.21	0.19	0.35	0.48
Control Delay	32.6		42.7	2.5	42.8	12.9
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	32.6		42.7	2.5	42.8	12.9
LOS	C		D	A	D	B
Approach Delay	32.6			6.4	22.5	
Approach LOS	C			A	C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 86.3

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 26.8

Intersection Capacity Utilization 71.7%

Analysis Period (min) 15

Intersection LOS: C

ICU Level of Service C

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

↙ ø1	→ ø2	
21 s	65.5 s	
← ø6		↖ ø8
86.5 s		33.5 s

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↰	↱	↱
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.998					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1859	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1859	0	1770	1863	1770	1583
Satd. Flow (RTOR)	1					59
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	304	4	105	1152	36	54
Adj. Flow (vph)	330	4	114	1252	39	59
Lane Group Flow (vph)	334	0	114	1252	39	59
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	60.3	0.0	25.2	85.5	34.5	34.5
Act Effct Green (s)	55.4		11.1	67.9	8.0	8.0
Actuated g/C Ratio	0.66		0.13	0.81	0.10	0.10
v/c Ratio	0.27		0.50	0.83	0.23	0.29
Control Delay	8.0		44.3	11.2	42.9	15.4
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	8.0		44.3	11.2	42.9	15.4
LOS	A		D	B	D	B
Approach Delay	8.0			14.0	26.3	
Approach LOS	A			B	C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 84.1

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 13.5

Intersection Capacity Utilization 70.6%

Analysis Period (min) 15

















Intersection LOS: B

ICU Level of Service C

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Rd

















↙ ø1	→ ø2	
25.2 s	60.3 s	
← ø6	↖ ø8	
85.5 s	34.5 s	

040501 - Otay Crossings

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	652	0	696	0	0	0	182	1	0	0	4	168
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	709	0	757	0	0	0	198	1	0	0	4	183
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	1465	0	199	187								
Volume Left (vph)	709	0	198	0								
Volume Right (vph)	757	0	0	183								
Hadj (s)	-0.18	0.00	0.23	-0.55								
Departure Headway (s)	4.9	6.2	6.4	5.6								
Degree Utilization, x	1.99	0.00	0.35	0.29								
Capacity (veh/h)	738	544	556	621								
Control Delay (s)	463.5	9.2	12.8	11.0								
Approach Delay (s)	463.5	0.0	12.8	11.0								
Approach LOS	F	A	B	B								
Intersection Summary												
Delay			369.3									
HCM Level of Service			F									
Intersection Capacity Utilization			109.6%		ICU Level of Service					H		
Analysis Period (min)			15									


















040501 - Otay Crossings

Ex+Otay Crossings - Unit 1- PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	101	1	280	0	0	0	656	0	0	0	1	726
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	116	1	322	0	0	0	754	0	0	0	1	834
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	439	0	754	836								
Volume Left (vph)	116	0	754	0								
Volume Right (vph)	322	0	0	834								
Hadj (s)	-0.35	0.00	0.23	-0.57								
Departure Headway (s)	6.6	9.1	6.8	6.0								
Degree Utilization, x	0.81	0.00	1.43	1.39								
Capacity (veh/h)	536	385	533	603								
Control Delay (s)	31.9	12.1	221.8	205.3								
Approach Delay (s)	31.9	0.0	221.8	205.3								
Approach LOS	D	A	F	F								
Intersection Summary												
Delay			173.9									
HCM Level of Service			F									
Intersection Capacity Utilization			114.2%		ICU Level of Service					H		
Analysis Period (min)			15									


















040501 - Otay Crossings

17: Airway Rd & La Media
Ex+Otay Crossings - Unit 1- AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	9	84	60	16	80	49	57	101	3	209	255	46
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	10	93	67	18	89	54	63	112	3	232	283	51
Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2							
Volume Total (vph)	170	161	179	232	334							
Volume Left (vph)	10	18	63	232	0							
Volume Right (vph)	67	54	3	0	51							
Hadj (s)	-0.19	-0.15	0.16	0.53	0.01							
Departure Headway (s)	5.9	6.0	6.0	6.3	5.8							
Degree Utilization, x	0.28	0.27	0.30	0.41	0.54							
Capacity (veh/h)	556	548	551	551	605							
Control Delay (s)	11.2	11.1	11.5	12.4	14.2							
Approach Delay (s)	11.2	11.1	11.5	13.4								
Approach LOS	B	B	B	B								
Intersection Summary												
Delay			12.4									
HCM Level of Service			B									
Intersection Capacity Utilization			47.5%			ICU Level of Service				A		
Analysis Period (min)			15									

040501 - Otay Crossings




















17: Airway Rd & La Media
Ex+Otay Crossings - Unit 1- PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	38	145	83	52	116	119	72	180	8	143	171	23
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Hourly flow rate (vph)	38	146	84	53	117	120	73	182	8	144	173	23
Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2							
Volume Total (vph)	269	290	263	144	196							
Volume Left (vph)	38	53	73	144	0							
Volume Right (vph)	84	120	8	0	23							
Hadj (s)	-0.12	-0.18	0.14	0.53	0.04							
Departure Headway (s)	6.4	6.3	6.7	7.4	6.9							
Degree Utilization, x	0.48	0.50	0.49	0.30	0.38							
Capacity (veh/h)	508	529	491	450	474							
Control Delay (s)	15.0	15.5	16.0	12.3	12.8							
Approach Delay (s)	15.0	15.5	16.0	12.6								
Approach LOS	B	C	C	B								
Intersection Summary												
Delay			14.6									
HCM Level of Service			B									
Intersection Capacity Utilization			57.9%		ICU Level of Service					B		
Analysis Period (min)			15									

040501 - Otay Crossings




















19: Airway Rd & Sanyo Ave











Ex+Otay Crossings - Unit 1- AM











												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	14	81	91	4	97	9	31	15	3	59	121	12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	15	87	98	4	104	10	33	16	3	63	130	13
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2					
Volume Total (vph)	200	109	10	33	19	194	13					
Volume Left (vph)	15	4	0	33	0	63	0					
Volume Right (vph)	98	0	10	0	3	0	13					
Hadj (s)	-0.24	0.05	-0.67	0.53	-0.08	0.20	-0.67					
Departure Headway (s)	5.1	5.5	4.8	6.1	5.5	5.6	4.7					
Degree Utilization, x	0.28	0.17	0.01	0.06	0.03	0.30	0.02					
Capacity (veh/h)	666	618	705	547	604	609	714					
Control Delay (s)	10.2	8.4	6.6	8.3	7.5	9.8	6.6					
Approach Delay (s)	10.2	8.2		8.0		9.6						
Approach LOS	B	A		A		A						
Intersection Summary												
Delay			9.4									
HCM Level of Service			A									
Intersection Capacity Utilization			40.2%		ICU Level of Service			A				
Analysis Period (min)			15									

040501 - Otay Crossings











19: Airway Rd & Sanyo Ave
Ex+Otay Crossings - Unit 1- PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	4	60	51	4	192	55	79	126	2	21	26	35
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	5	69	59	5	221	63	91	145	2	24	30	40
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2					
Volume Total (vph)	132	225	63	91	147	54	40					
Volume Left (vph)	5	5	0	91	0	24	0					
Volume Right (vph)	59	0	63	0	2	0	40					
Hadj (s)	-0.23	0.04	-0.67	0.53	0.02	0.26	-0.67					
Departure Headway (s)	5.6	5.6	4.9	6.3	5.8	6.3	5.3					
Degree Utilization, x	0.20	0.35	0.09	0.16	0.24	0.09	0.06					
Capacity (veh/h)	605	609	691	541	588	532	620					
Control Delay (s)	10.0	10.5	7.2	9.3	9.4	8.7	7.5					
Approach Delay (s)	10.0	9.8		9.4		8.2						
Approach LOS	B	A		A		A						
Intersection Summary												
Delay			9.5									
HCM Level of Service			A									
Intersection Capacity Utilization			31.8%		ICU Level of Service					A		
Analysis Period (min)			15									

























						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	86	46	5	77	33	9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	96	51	6	86	37	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			147		218	121
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			147		218	121
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		95	99
cM capacity (veh/h)			1435		767	930
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	147	91	37	10		
Volume Left	0	6	37	0		
Volume Right	51	0	0	10		
cSH	1700	1435	767	930		
Volume to Capacity	0.09	0.00	0.05	0.01		
Queue Length 95th (ft)	0	0	4	1		
Control Delay (s)	0.0	0.5	9.9	8.9		
Lane LOS		A	A	A		
Approach Delay (s)	0.0	0.5	9.7			
Approach LOS			A			
Intersection Summary						
Average Delay			1.7			
Intersection Capacity Utilization			18.2%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	56	29	26	159	82	10
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	64	33	30	183	94	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			98		324	81
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			98		324	81
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		86	99
cM capacity (veh/h)			1496		657	979
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	98	213	94	11		
Volume Left	0	30	94	0		
Volume Right	33	0	0	11		
cSH	1700	1496	657	979		
Volume to Capacity	0.06	0.02	0.14	0.01		
Queue Length 95th (ft)	0	2	12	1		
Control Delay (s)	0.0	1.2	11.4	8.7		
Lane LOS		A	B	A		
Approach Delay (s)	0.0	1.2	11.1			
Approach LOS			B			
Intersection Summary						
Average Delay			3.4			
Intersection Capacity Utilization			27.7%		ICU Level of Service	A
Analysis Period (min)			15			

040501 - Otay Crossings

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	31	37	4	71	23	11
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	40	47	5	91	29	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			87		165	63
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			87		165	63
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		96	99
cM capacity (veh/h)			1509		823	1001
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	87	96	29	14		
Volume Left	0	5	29	0		
Volume Right	47	0	0	14		
cSH	1700	1509	823	1001		
Volume to Capacity	0.05	0.00	0.04	0.01		
Queue Length 95th (ft)	0	0	3	1		
Control Delay (s)	0.0	0.4	9.5	8.6		
Lane LOS		A	A	A		
Approach Delay (s)	0.0	0.4	9.2			
Approach LOS			A			
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			17.0%		ICU Level of Service	A
Analysis Period (min)			15			

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↖	↗
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	13	36	1	108	55	1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	15	43	1	129	65	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)				1314		
pX, platoon unblocked						
vC, conflicting volume			58		168	37
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			58		168	37
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		92	100
cM capacity (veh/h)			1546		822	1035
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	58	130	65	1		
Volume Left	0	1	65	0		
Volume Right	43	0	0	1		
cSH	1700	1546	822	1035		
Volume to Capacity	0.03	0.00	0.08	0.00		
Queue Length 95th (ft)	0	0	6	0		
Control Delay (s)	0.0	0.1	9.8	8.5		
Lane LOS		A	A	A		
Approach Delay (s)	0.0	0.1	9.7			
Approach LOS			A			
Intersection Summary						
Average Delay			2.6			
Intersection Capacity Utilization			16.5%		ICU Level of Service	A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.925	0.850			0.850		0.926			0.971	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1637	1504	1770	1863	1583	1770	3277	0	1770	3437	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1637	1504	1770	1863	1583	1770	3277	0	1770	3437	0
Satd. Flow (RTOR)		12	22			1		188			18	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	3	11	27	1	2	1	59	154	173	1	61	14
Adj. Flow (vph)	4	12	34	1	2	1	74	192	188	1	76	18
Lane Group Flow (vph)	4	24	22	1	2	1	74	380	0	1	94	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Total Split (s)	9.5	21.0	21.0	9.0	20.5	20.5	12.3	21.0	0.0	49.0	57.7	0.0
Act Effect Green (s)	6.9	8.5	8.5	6.3	8.3	8.3	10.0	44.1		7.5	39.2	
Actuated g/C Ratio	0.11	0.13	0.13	0.10	0.13	0.13	0.16	0.76		0.11	0.68	
v/c Ratio	0.02	0.10	0.10	0.01	0.01	0.00	0.27	0.15		0.00	0.04	
Control Delay	17.0	11.1	8.7	17.0	14.0	13.0	13.5	3.7		17.0	8.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	17.0	11.1	8.7	17.0	14.0	13.0	13.5	3.7		17.0	8.6	
LOS	B	B	A	B	B	B	B	A		B	A	
Approach Delay		10.5			14.5			5.3			8.7	
Approach LOS		B			B			A			A	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 57.8

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.27

Intersection Signal Delay: 6.3









Intersection Capacity Utilization 26.5%























Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service A

Splits and Phases: 23: Airway Rd & Enrico Fermi Dr

 ø1	 ø2	 ø3	 ø4
49 s	21 s	9 s	21 s
 ø6	 ø5	 ø7	 ø8
57.7 s	12.3 s	9.5 s	20.5 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frts		0.850	0.850					0.999			0.948	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1770	1504	1504	1863	1863	1863	1770	3536	0	1863	3355	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1770	1504	1504	1863	1863	1863	1770	3536	0	1863	3355	0
Satd. Flow (RTOR)		926	926					1			51	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	2	0	13	0	0	0	70	125	1	0	79	42
Adj. Flow (vph)	2	0	16	0	0	0	85	152	1	0	96	51
Lane Group Flow (vph)	2	8	8	0	0	0	85	153	0	0	147	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Total Split (s)	15.5	27.5	27.5	15.5	27.5	27.5	20.9	31.5	0.0	15.5	26.1	0.0
Act Effct Green (s)	6.2	6.1	6.1				11.4	87.1			71.3	
Actuated g/C Ratio	0.07	0.07	0.07				0.13	0.97			0.79	
v/c Ratio	0.02	0.01	0.01				0.38	0.04			0.06	
Control Delay	39.0	0.0	0.0				40.3	0.4			2.6	
Queue Delay	0.0	0.0	0.0				0.0	0.0			0.0	
Total Delay	39.0	0.0	0.0				40.3	0.4			2.6	
LOS	D	A	A				D	A			A	
Approach Delay		4.3						14.7			2.6	
Approach LOS		A						B			A	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.38

Intersection Signal Delay: 9.8









Intersection LOS: A

Intersection Capacity Utilization 20.7%

















ICU Level of Service A

Analysis Period (min) 15

















Splits and Phases: 23: Airway Rd & Enrico Fermi Rd

			
ø1	ø2	ø3	ø4
15.5 s	31.5 s	15.5 s	27.5 s
			
ø6	ø5	ø7	ø8
26.1 s	20.9 s	15.5 s	27.5 s

040501 - Otay Crossings

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	5	2	0	10	2	93	0	9	2	236	20	4
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	6	2	0	11	2	107	0	10	2	271	23	5
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	8	121	13	299								
Volume Left (vph)	6	11	0	271								
Volume Right (vph)	0	107	2	5								
Hadj (s)	0.18	-0.48	0.01	0.21								
Departure Headway (s)	5.0	4.2	4.5	4.4								
Degree Utilization, x	0.01	0.14	0.02	0.37								
Capacity (veh/h)	667	800	753	788								
Control Delay (s)	8.0	7.8	7.6	10.0								
Approach Delay (s)	8.0	7.8	7.6	10.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			9.3									
HCM Level of Service			A									
Intersection Capacity Utilization			34.0%		ICU Level of Service					A		
Analysis Period (min)			15									

040501 - Otay Crossings

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	5	10	0	9	3	121	0	61	1	178	116	10
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	6	12	0	11	4	149	0	75	1	220	143	12
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	19	164	77	375								
Volume Left (vph)	6	11	0	220								
Volume Right (vph)	0	149	1	12								
Hadj (s)	0.10	-0.50	0.12	0.17								
Departure Headway (s)	5.3	4.5	4.9	4.6								
Degree Utilization, x	0.03	0.21	0.10	0.48								
Capacity (veh/h)	602	727	688	753								
Control Delay (s)	8.5	8.7	8.5	11.8								
Approach Delay (s)	8.5	8.7	8.5	11.8								
Approach LOS	A	A	A	B								
Intersection Summary												
Delay			10.5									
HCM Level of Service			B									
Intersection Capacity Utilization			38.3%		ICU Level of Service					A		
Analysis Period (min)			15									

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↘↘	↑↑↑		↗↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	0.91	0.97	0.91	1.00	0.88
Frt	0.986					0.850
Flt Protected			0.950			
Satd. Flow (prot)	5014	0	3433	5085	0	2787
Flt Permitted			0.950			
Satd. Flow (perm)	5014	0	3433	5085	0	2787
Satd. Flow (RTOR)	19					940
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	468	46	211	702	0	280
Adj. Flow (vph)	514	51	232	771	0	308
Lane Group Flow (vph)	565	0	232	771	0	308
Turn Type			Prot			custom
Protected Phases	2		1	6		
Permitted Phases						8
Total Split (s)	33.0	0.0	25.0	58.0	0.0	32.0
Act Effct Green (s)	60.6		11.4	76.0		6.0
Actuated g/C Ratio	0.67		0.13	0.84		0.07
v/c Ratio	0.17		0.54	0.18		0.29
Control Delay	5.6		40.2	1.1		0.7
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	5.6		40.2	1.1		0.7
LOS	A		D	A		A
Approach Delay	5.6			10.2		
Approach LOS	A			B		

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 66 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 7.2

Intersection LOS: A

Intersection Capacity Utilization 26.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 28: Siempre Viva Rd & SR905 SB Off to Siempre Viva EB

↙ ø1	→ ø2	
25 s	33 s	
← ø6		↗ ø8
58 s		32 s

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↘↙	↑↑↑		↗↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	0.91	0.97	0.91	1.00	0.88
Fr _t	0.937					0.850
Flt Protected			0.950			
Satd. Flow (prot)	4765	0	3433	5085	0	2787
Flt Permitted			0.950			
Satd. Flow (perm)	4765	0	3433	5085	0	2787
Satd. Flow (RTOR)	214					1005
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	444	322	371	669	0	175
Adj. Flow (vph)	522	379	436	787	0	206
Lane Group Flow (vph)	901	0	436	787	0	206
Turn Type			Prot			custom
Protected Phases	2		1	6		
Permitted Phases						8
Total Split (s)	32.8	0.0	28.7	61.5	0.0	28.5
Act Effct Green (s)	47.3		24.7	76.0		6.0
Actuated g/C Ratio	0.53		0.27	0.84		0.07
v/c Ratio	0.35		0.46	0.18		0.18
Control Delay	9.6		24.9	1.3		0.4
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	9.6		24.9	1.3		0.4
LOS	A		C	A		A
Approach Delay	9.6			9.7		
Approach LOS	A			A		

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 29 (32%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.46

Intersection Signal Delay: 8.8

Intersection LOS: A







Intersection Capacity Utilization 33.0%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 28: Siempre Viva Road & SR905 SB Off Ramp to Siempre Viva EB







→ ø2	↘ ø1	
32.8 s	28.7 s	
← ø6		↗ ø8
61.5 s		28.5 s



















							
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		↑↑↑↑	↑↑↑↑			↑	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Volume (veh/h)	0	748	549	0	0	364	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	
Hourly flow rate (vph)	0	860	631	0	0	418	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type					None		
Median storage veh)							
Upstream signal (ft)		281	733				
pX, platoon unblocked					0.98		
vC, conflicting volume	631				918	210	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	631				885	210	
tC, single (s)	4.1				6.8	6.9	
tC, 2 stage (s)							
tF (s)	2.2				3.5	3.3	
p0 queue free %	100				100	47	
cM capacity (veh/h)	947				280	795	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	287	287	287	210	210	210	418
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	418
cSH	1700	1700	1700	1700	1700	1700	795
Volume to Capacity	0.17	0.17	0.17	0.12	0.12	0.12	0.53
Queue Length 95th (ft)	0	0	0	0	0	0	78
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	14.4
Lane LOS							B
Approach Delay (s)	0.0			0.0			14.4
Approach LOS							B
Intersection Summary							
Average Delay			3.2				
Intersection Capacity Utilization			39.8%		ICU Level of Service		A
Analysis Period (min)			15				

29: Siempre Viva Road & SR905 SB Off Ramp to Siempre Viva WB

040501 - Otay Crossings

Ex+Otay Crossings - Unit 1- PM

							
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		↑↑↑	↑↑↑			↑	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Volume (veh/h)	0	619	664	0	0	376	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	
Hourly flow rate (vph)	0	666	714	0	0	404	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type					None		
Median storage (veh)							
Upstream signal (ft)		225	412				
pX, platoon unblocked	0.97				0.97	0.97	
vC, conflicting volume	714				936	238	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	648				876	158	
tC, single (s)	4.1				6.8	6.9	
tC, 2 stage (s)							
tF (s)	2.2				3.5	3.3	
p0 queue free %	100				100	52	
cM capacity (veh/h)	908				280	835	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	222	222	222	238	238	238	404
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	404
cSH	1700	1700	1700	1700	1700	1700	835
Volume to Capacity	0.13	0.13	0.13	0.14	0.14	0.14	0.48
Queue Length 95th (ft)	0	0	0	0	0	0	67
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	13.3
Lane LOS							B
Approach Delay (s)	0.0			0.0			13.3
Approach LOS							B
Intersection Summary							
Average Delay			3.0				
Intersection Capacity Utilization			42.8%		ICU Level of Service		A
Analysis Period (min)			15				

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	1.00	1.00	0.88	1.00	1.00	1.00
Frt					0.990	0.850			0.850			
Flt Protected	0.950							0.953				
Satd. Flow (prot)	3433	5085	0	0	4758	1362	0	1775	2787	0	0	0
Flt Permitted	0.950							0.953				
Satd. Flow (perm)	3433	5085	0	0	4758	1362	0	1775	2787	0	0	0
Satd. Flow (RTOR)					12	153			267			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	125	613	0	0	391	175	164	1	256	0	0	0
Adj. Flow (vph)	130	639	0	0	407	182	171	1	267	0	0	0
Lane Group Flow (vph)	130	639	0	0	436	153	0	172	267	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Total Split (s)	24.0	56.5	0.0	0.0	32.5	32.5	33.5	33.5	33.5	0.0	0.0	0.0
Act Effect Green (s)	9.0	68.1			55.1	55.1		13.9	13.9			
Actuated g/C Ratio	0.10	0.76			0.61	0.61		0.15	0.15			
v/c Ratio	0.38	0.17			0.15	0.17		0.63	0.41			
Control Delay	37.9	1.4			8.2	2.3		45.1	6.0			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	37.9	1.4			8.2	2.3		45.1	6.0			
LOS	D	A			A	A		D	A			
Approach Delay		7.6			6.7			21.3				
Approach LOS		A			A			C				

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 77 (86%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 10.7





Intersection LOS: B



















Intersection Capacity Utilization 39.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 30: Siempre Viva Rd & SR 905 NB On Ramp

	
ø2	ø8
56.5 s	33.5 s
	
ø6	ø5
32.5 s	24 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	1.00	1.00	0.88	1.00	1.00	1.00
Frts					0.980	0.850			0.850			
Flt Protected	0.950							0.954				
Satd. Flow (prot)	3433	5085	0	0	4710	1362	0	1777	2787	0	0	0
Flt Permitted	0.950							0.954				
Satd. Flow (perm)	3433	5085	0	0	4710	1362	0	1777	2787	0	0	0
Satd. Flow (RTOR)					33	299			212			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	297	352	0	0	610	373	49	2	197	0	0	0
Adj. Flow (vph)	319	378	0	0	656	401	53	2	212	0	0	0
Lane Group Flow (vph)	319	378	0	0	758	299	0	55	212	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Total Split (s)	26.1	61.5	0.0	0.0	35.4	35.4	28.5	28.5	28.5	0.0	0.0	0.0
Act Effct Green (s)	14.5	73.5			55.0	55.0		8.5	8.5			
Actuated g/C Ratio	0.16	0.82			0.61	0.61		0.09	0.09			
v/c Ratio	0.58	0.09			0.26	0.32		0.33	0.47			
Control Delay	32.3	0.9			8.7	2.2		42.7	9.1			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	32.3	0.9			8.7	2.2		42.7	9.1			
LOS	C	A			A	A		D	A			
Approach Delay		15.2			6.8			16.0				
Approach LOS		B			A			B				

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 66 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 10.9





Intersection LOS: B
























Intersection Capacity Utilization 42.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 30: Siempre Viva Road & SR905 NB On Ramp

	
ø2	ø8
61.5 s	28.5 s
	
ø5	ø6
26.1 s	35.4 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frnt			0.850		0.999				0.850		0.932	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3536	0	1770	3539	1583	1770	3299	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5085	1583	1770	3536	0	1770	3539	1583	1770	3299	0
Satd. Flow (RTOR)			154						5		58	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	517	374	140	21	264	1	120	51	5	8	64	53
Adj. Flow (vph)	568	411	154	23	290	1	132	56	5	9	70	58
Lane Group Flow (vph)	568	411	154	23	291	0	132	56	5	9	128	0
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Total Split (s)	36.0	48.1	48.1	9.4	21.5	0.0	12.0	24.0	24.0	8.5	20.5	0.0
Act Effct Green (s)	27.6	39.9	39.9	5.4	11.6		8.1	18.4	18.4	4.6	7.7	
Actuated g/C Ratio	0.39	0.56	0.56	0.07	0.16		0.11	0.26	0.26	0.06	0.11	
v/c Ratio	0.83	0.14	0.16	0.18	0.51		0.66	0.06	0.01	0.09	0.31	
Control Delay	32.4	8.3	2.4	39.3	31.6		51.2	24.5	17.2	39.5	21.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	32.4	8.3	2.4	39.3	31.6		51.2	24.5	17.2	39.5	21.4	
LOS	C	A	A	D	C		D	C	B	D	C	
Approach Delay		19.6			32.1			42.6			22.6	
Approach LOS		B			C			D			C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 71.3

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 24.5









Intersection Capacity Utilization 59.3%
























Analysis Period (min) 15

Intersection LOS: C

ICU Level of Service B

Splits and Phases: 32: Siempre Viva Rd & Paseo De Las Americas

			
ø1	ø2	ø3	ø4
9.4 s	48.1 s	12 s	20.5 s
			
ø5	ø6	ø7	ø8
36 s	21.5 s	8.5 s	24 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Fr't			0.850		0.993				0.850		0.926	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3514	0	1770	3539	1583	1770	3277	0
Flt Permitted	0.950			0.950			0.459			0.666		
Satd. Flow (perm)	1770	5085	1583	1770	3514	0	855	3539	1583	1241	3277	0
Satd. Flow (RTOR)			67		3				8		89	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	630	116	59	30	307	14	269	120	7	6	80	78
Adj. Flow (vph)	716	132	67	34	349	16	306	136	8	7	91	89
Lane Group Flow (vph)	716	132	67	34	365	0	306	136	8	7	180	0
Turn Type	Prot		Perm	Prot			pm+pt		Perm	pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2				8		8	4		
Total Split (s)	57.0	67.3	67.3	10.6	20.9	0.0	21.6	31.0	31.0	11.1	20.5	0.0
Act Effct Green (s)	45.3	58.6	58.6	6.6	14.8		29.4	27.5	27.5	15.6	9.1	
Actuated g/C Ratio	0.44	0.57	0.57	0.06	0.14		0.29	0.27	0.27	0.14	0.09	
v/c Ratio	0.91	0.05	0.07	0.31	0.71		0.78	0.14	0.02	0.03	0.48	
Control Delay	44.2	10.9	3.2	59.5	51.8		48.8	32.8	19.1	33.0	29.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	44.2	10.9	3.2	59.5	51.8		48.8	32.8	19.1	33.0	29.9	
LOS	D	B	A	E	D		D	C	B	C	C	
Approach Delay		36.4			52.5			43.5			30.1	
Approach LOS		D			D			D			C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 102.1

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 40.7









Intersection Capacity Utilization 76.8%




















Analysis Period (min) 15

Intersection LOS: D

ICU Level of Service D




















Splits and Phases: 32: Siempre Viva Road & Paseo De Las Americas

			
ø1	ø2	ø3	ø4
10.6 s	67.3 s	21.6 s	20.5 s
			
ø5	ø6	ø7	ø8
57 s	20.9 s	11.1 s	31 s





















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	54	221	62	20	212	1	21	17	22	2	5	27
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	64	263	74	24	252	1	25	20	26	2	6	32
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)		1276										
pX, platoon unblocked												
vC, conflicting volume	254			337			638	730	168	597	766	127
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	254			337			638	730	168	597	766	127
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			98			92	94	97	99	98	96
cM capacity (veh/h)	1309			1219			326	324	846	339	309	900
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2			
Volume Total	64	175	162	24	168	85	71	8	32			
Volume Left	64	0	0	24	0	0	25	2	0			
Volume Right	0	0	74	0	0	1	26	0	32			
cSH	1309	1700	1700	1219	1700	1700	420	317	900			
Volume to Capacity	0.05	0.10	0.10	0.02	0.10	0.05	0.17	0.03	0.04			
Queue Length 95th (ft)	4	0	0	1	0	0	15	2	3			
Control Delay (s)	7.9	0.0	0.0	8.0	0.0	0.0	15.3	16.7	9.1			
Lane LOS	A			A			C	C	A			
Approach Delay (s)	1.3			0.7			15.3	10.7				
Approach LOS							C	B				
Intersection Summary												
Average Delay			2.8									
Intersection Capacity Utilization			31.5%			ICU Level of Service			A			
Analysis Period (min)			15									

040501 - Otay Crossings

Ex+Otay Crossings - Unit 1- PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	39	60	20	17	216	5	51	15	0	1	19	52
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	43	66	22	19	237	5	56	16	0	1	21	57
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)		1290			1303							
pX, platoon unblocked												
vC, conflicting volume	243			88			386	443	44	404	451	121
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	243			88			386	443	44	404	451	121
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			99			88	97	100	100	96	94
cM capacity (veh/h)	1321			1506			479	485	1017	500	480	907
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2			
Volume Total	43	44	44	19	158	85	73	22	57			
Volume Left	43	0	0	19	0	0	56	1	0			
Volume Right	0	0	22	0	0	5	0	0	57			
cSH	1321	1700	1700	1506	1700	1700	480	481	907			
Volume to Capacity	0.03	0.03	0.03	0.01	0.09	0.05	0.15	0.05	0.06			
Queue Length 95th (ft)	3	0	0	1	0	0	13	4	5			
Control Delay (s)	7.8	0.0	0.0	7.4	0.0	0.0	13.8	12.8	9.2			
Lane LOS	A			A			B	B	A			
Approach Delay (s)	2.6			0.5			13.8	10.2				
Approach LOS							B	B				
Intersection Summary												
Average Delay			4.2									
Intersection Capacity Utilization			29.7%				ICU Level of Service		A			
Analysis Period (min)			15									

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frts		0.917			0.993			0.994			0.925	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	1708	0	1863	3514	0	1770	3518	0	1863	3274	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	1708	0	1863	3514	0	1770	3518	0	1863	3274	0
Satd. Flow (RTOR)		5			5			3			27	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	209	3	4	0	80	4	9	60	2	0	21	21
Adj. Flow (vph)	271	4	5	0	104	5	12	78	3	0	27	27
Lane Group Flow (vph)	271	9	0	0	109	0	12	81	0	0	54	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Total Split (s)	22.0	33.0	0.0	15.0	26.0	0.0	15.0	27.0	0.0	15.0	27.0	0.0
Act Effect Green (s)	9.3	16.1			7.3		6.6	15.0			13.4	
Actuated g/C Ratio	0.24	0.42			0.18		0.15	0.41			0.37	
v/c Ratio	0.33	0.01			0.17		0.05	0.06			0.04	
Control Delay	12.8	4.4			14.5		19.0	10.7			10.7	
Queue Delay	0.0	0.0			0.0		0.0	0.0			0.0	
Total Delay	12.8	4.4			14.5		19.0	10.7			10.7	
LOS	B	A			B		B	B			B	
Approach Delay		12.5			14.5			11.8			10.7	
Approach LOS		B			B			B			B	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 36.6

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.33

Intersection Signal Delay: 12.6









Intersection Capacity Utilization 26.5%





















Analysis Period (min) 15

Intersection LOS: B

ICU Level of Service A

Splits and Phases: 34: Siempre Viva Rd & Enrico Fermi Dr

			
ø1	ø2	ø3	ø4
15 s	33 s	15 s	27 s
			
ø6	ø5	ø7	ø8
26 s	22 s	15 s	27 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frts		0.872			0.953			0.998			0.858	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1624	0	1770	3373	0	1770	3532	0	1770	3037	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1624	0	1770	3373	0	1770	3532	0	1770	3037	0
Satd. Flow (RTOR)		23			11			2			809	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	28	4	22	11	23	11	146	136	2	3	4	73
Adj. Flow (vph)	29	4	23	11	24	11	152	142	2	3	4	76
Lane Group Flow (vph)	29	27	0	11	35	0	152	144	0	3	80	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Total Split (s)	13.5	26.8	0.0	13.5	26.8	0.0	24.2	36.2	0.0	13.5	25.5	0.0
Act Effct Green (s)	6.8	9.2		6.8	6.9		11.5	50.2		6.5	33.4	
Actuated g/C Ratio	0.10	0.14		0.10	0.10		0.19	0.81		0.09	0.54	
v/c Ratio	0.08	0.11		0.06	0.10		0.46	0.05		0.02	0.04	
Control Delay	26.1	13.7		28.7	20.6		23.5	5.3		29.0	0.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	26.1	13.7		28.7	20.6		23.5	5.3		29.0	0.0	
LOS	C	B		C	C		C	A		C	A	
Approach Delay		20.1			22.6			14.7			1.1	
Approach LOS		C			C			B			A	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 61.9

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.46

Intersection Signal Delay: 13.7









Intersection Capacity Utilization 28.9%

Analysis Period (min) 15












Intersection LOS: B

ICU Level of Service A

Splits and Phases: 34: Siempre Viva Road & Enrico Fermi Rd

			
ø2	ø1	ø4	ø3
26.8 s	13.5 s	25.5 s	24.2 s
			
ø5	ø6	ø8	ø7
13.5 s	26.8 s	36.2 s	13.5 s

040501 - Otay Crossings

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.996			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1855	0	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	1855	0	1770	1863
Satd. Flow (RTOR)		5	3			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	6	5	634	19	1	166
Adj. Flow (vph)	7	5	689	21	1	180
Lane Group Flow (vph)	7	5	710	0	1	180
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Total Split (s)	25.5	25.5	51.0	0.0	13.5	64.5
Act Effect Green (s)	6.5	6.5	110.3		6.2	112.7
Actuated g/C Ratio	0.05	0.05	0.95		0.05	0.97
v/c Ratio	0.08	0.06	0.40		0.01	0.10
Control Delay	27.7	18.0	2.3		27.0	0.5
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	27.7	18.0	2.3		27.0	0.5
LOS	C	B	A		C	A
Approach Delay	23.6		2.3			0.7
Approach LOS	C		A			A

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 116.1

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.40

Intersection Signal Delay: 2.2





Intersection Capacity Utilization 44.5%












Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service A

Splits and Phases: 67: Paseo De La Fuente & Alta Rd.

		
ø2	ø1	
51 s	13.5 s	
		
ø6	ø8	
64.5 s	25.5 s	

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.996			
Flt Protected	0.950					
Satd. Flow (prot)	1770	1583	1855	0	1863	1863
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1583	1855	0	1863	1863
Satd. Flow (RTOR)		2	2			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	221	2	98	3	0	506
Adj. Flow (vph)	273	2	121	4	0	625
Lane Group Flow (vph)	273	2	125	0	0	625
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Total Split (s)	37.3	37.3	34.2	0.0	18.5	52.7
Act Effct Green (s)	12.7	12.7	24.8			24.8
Actuated g/C Ratio	0.28	0.28	0.54			0.54
v/c Ratio	0.56	0.00	0.12			0.62
Control Delay	18.3	10.5	6.4			11.4
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	18.3	10.5	6.4			11.4
LOS	B	B	A			B
Approach Delay	18.2		6.4			11.4
Approach LOS	B		A			B

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 45.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 12.6





Intersection LOS: B

Intersection Capacity Utilization 45.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 67: Paseo De La Fuente & Alta Rd

 ø1	 ø2	
18.5 s	34.2 s	
 ø6	 ø8	
52.7 s	37.3 s	

Existing + Project Unit 1 Intersection ILV Analysis

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Heritage

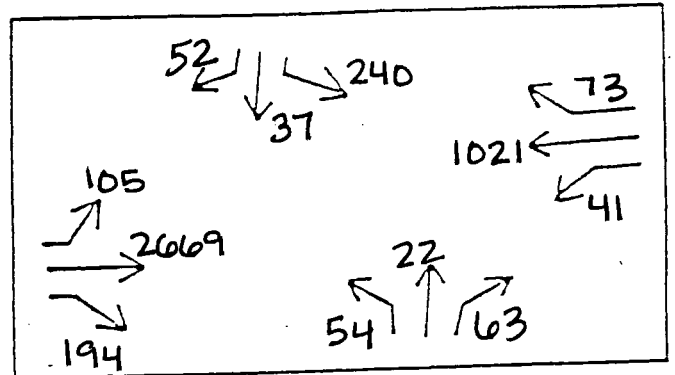
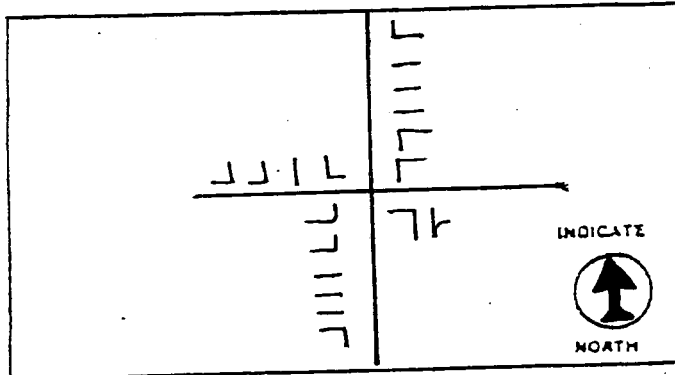
DIST. CO. RTE. P.M. 11/SD/905

Existing + Unit 1

BY JB DATE 4-6-10

TIME AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
0	21
0	20
52	
53	

Phase 2	
48	
340	
341	
340	
890	
890	
890	
169	

Phase 3	
240	
25	25
	54

Phase 4	
37	
16	
16	
	85

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
53

Phase 2
890

Phase 3
240

Phase 4
85

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,268

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

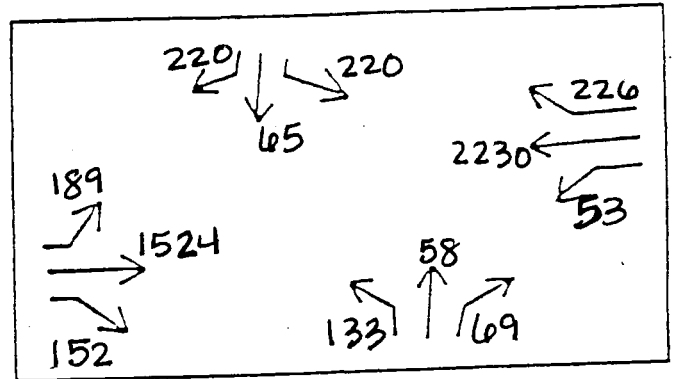
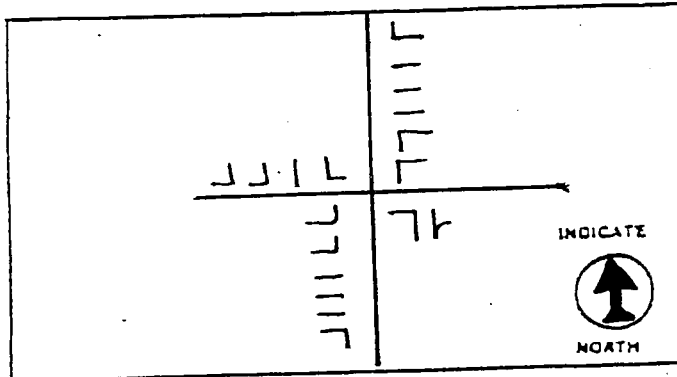
REMARKS:

INTERSECTION Signalized Intersection CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Heritage
Existing + Unit 1

DIST. CO. RTE. P.M. 11/SD/905
BY JB DATE 4-6-10
TIME _____ AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
20	27
20	26
94	
95	

Phase 2	
126	
743	
744	
743	
508	
508	
508	
77	

Phase 3	
220	100
75	133

Phase 4	
90	55
1	1
	127

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
95

Phase 2
744

Phase 3
220

Phase 4
127

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,186

Is . . . ~~1~~ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / Cactus

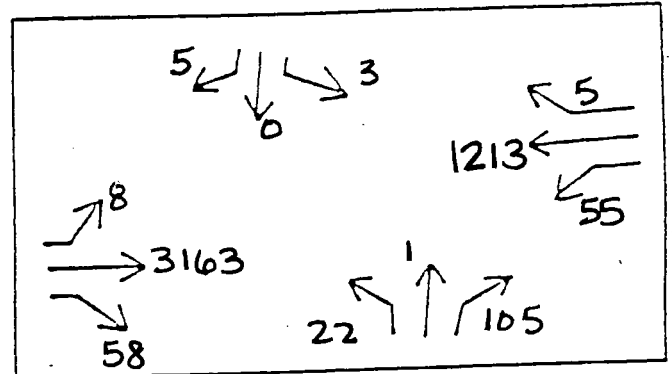
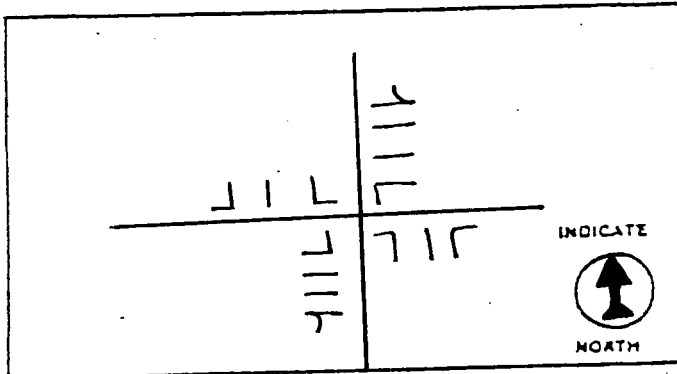
DIST. CO. RTE. P.M. 11 / SD / 905

Existing + Unit + 1

BY UB DATE 4-6-10

TIME AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
0	55
8	50

Phase 2	
406	406
1074	1074
1073	1073

Phase 3	
3	22

Phase 4	
50	55

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
55

Phase 2
1,074

Phase 3
22

Phase 4
55

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,206

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / Cactus

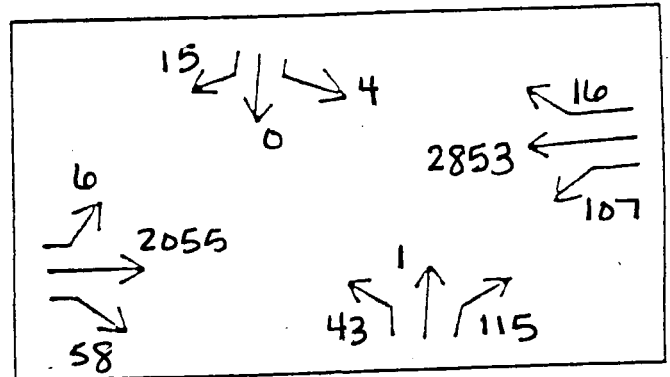
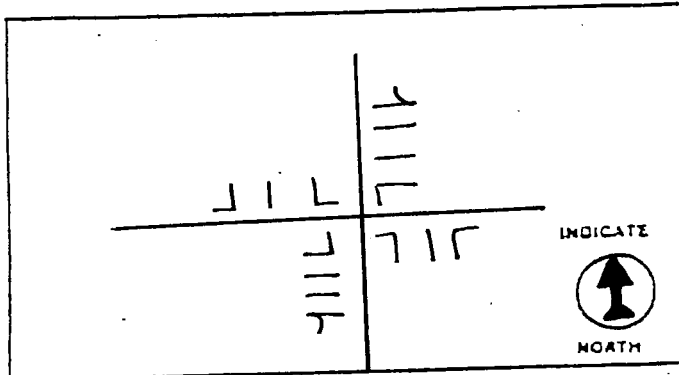
DIST. CO. RTE. P.M. 11 / SD / 905

BY JB DATE 4-6-10

TIME AM (PM)

Existing + Unit 1

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
6	107
6	100

Phase 2	
956	
957	
956	
704	
705	
704	

Phase 3	
1	
1	
7	
13	

Phase 4	
510	
11	
1	
51	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
107

Phase 2
957

Phase 3
43

Phase 4
15

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,122

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

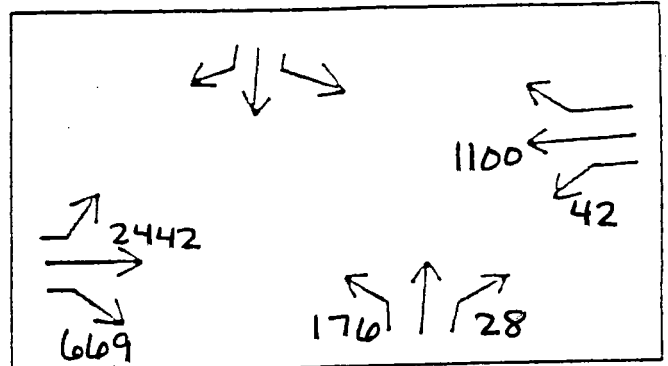
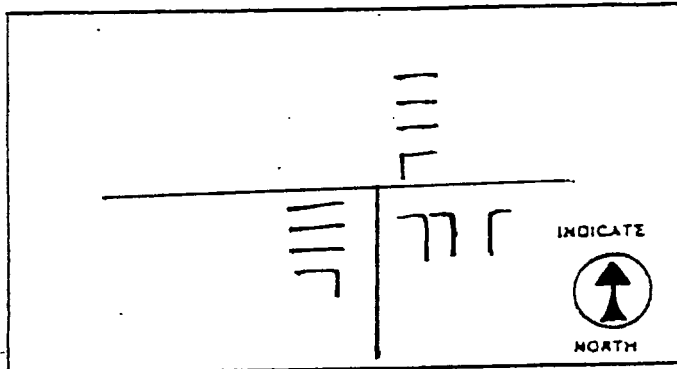
INTERSECTION Otay Mesa Rd / Britannia Blvd DIST. CO. RTE. P.M. 11/SD/905

Existing + Unit 1

BY VJB DATE 4-6-10

TIME AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
— 42	
— 42	
— 42	
└ 42	

Phase 2	
— 324	
— 325	
— 325	
814 —	
814 —	
814 —	
581 └	

Phase 3	
88 └	└ 77 └
	88 88 28

Phase 4	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
42

Phase 2
814

Phase 3
88

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
944

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

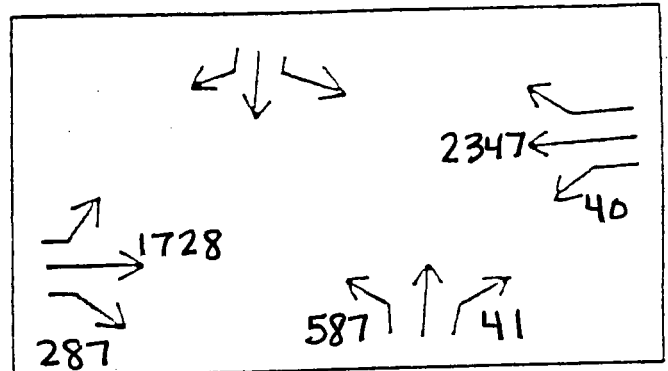
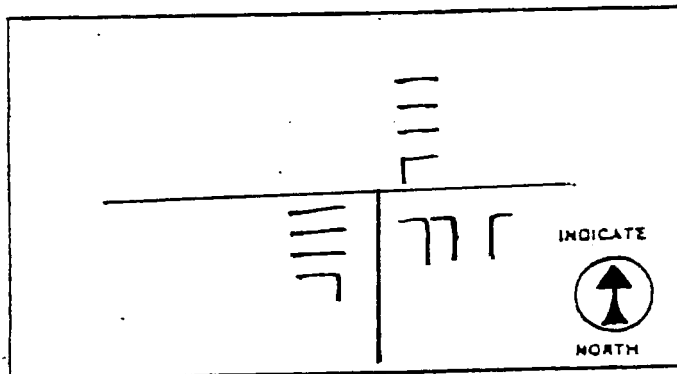
INTERSECTION Otay Mesa Rd / Britannia Blvd DIST. CO. RTE. P.M. 11/SD/905

BY VJB DATE 4-6-10

TIME AM PM

Existing + Unit 1

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
—	40
—	40
—	40
└	40

Phase 2	
—	742
—	743
—	742
576	—
576	—
576	—
200	└

Phase 3	
87	└
	└
	└
	└
	41
	293
	294

Phase 4	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
40

Phase 2
743

Phase 3
294

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,077

Is . . . ☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

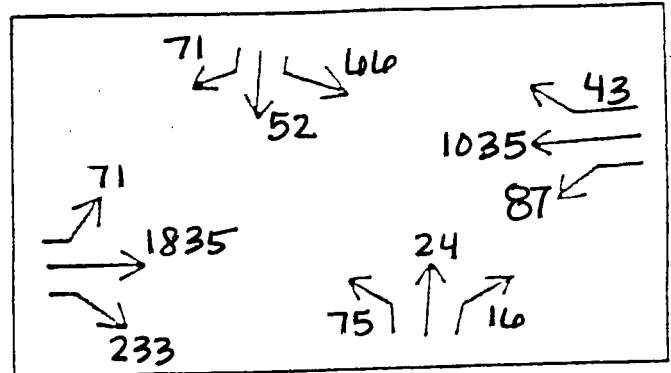
INTERSECTION Otay Mesa Rd/La Media Rd

DIST. CO. RTE. P.M. 11/SD/905

BY JB DATE 4-6-10

TIME _____ (AM) PM

Existing + Unit 1



Phase 1	
	┌ 87
71 ┐	

Phase 3	
33 33 L L	
75 L	L 75

Phase 4	
123	
	40

Phase 1
87

Phase 2
612

Phase 3
75

Phase 4
123

Σ
897

15 . . .

~~X~~ < 1200 ILV/hr.

$C > 1200$ but < 1500 ILV/hr.

REMARKS:

INTERSECTION

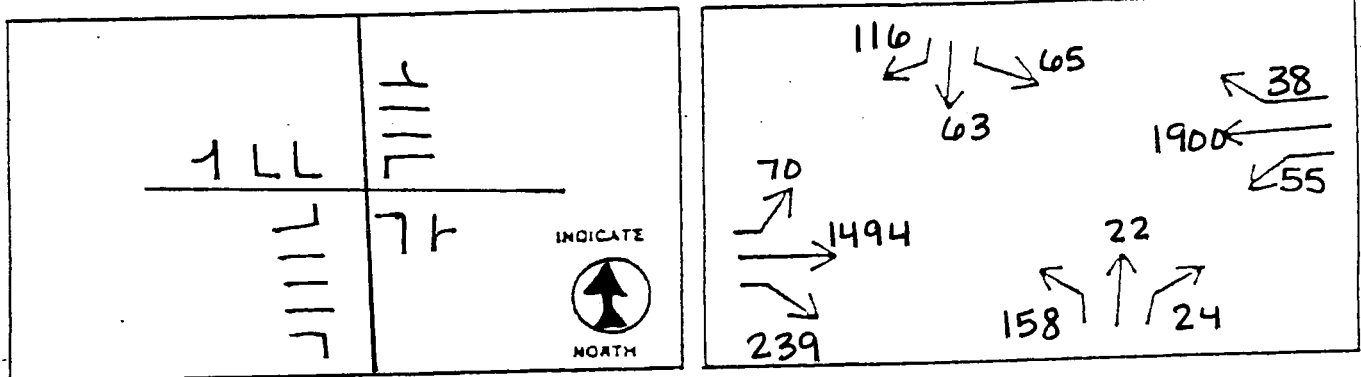
Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa Rd/La Media Rd DIST. CO. RTE. P.M. 11/SD/905
 BY JB DATE 4-6-10
 TIME AM PM

Existing + Unit 1

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
<div> <div>70</div> <div>55</div> </div>	<div> <div>498</div> <div>498</div> <div>498</div> <div>139</div> </div>	<div> <div>100</div> <div>158</div> </div>	<div> <div>179</div> <div>410</div> </div>

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
55	646	158	179

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,038

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Piper Ranch

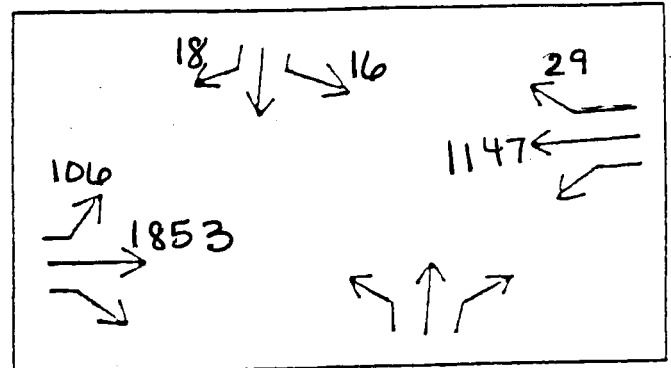
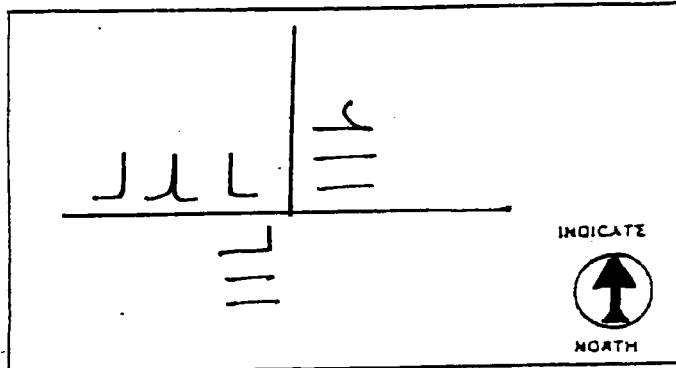
DIST. CO. RTE. P.M. 11/SD/905

Existing + Unit 1

BY JB DATE 4-6-10

TIME (AM) PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
106	
106	
106	

Phase 2	
	382
	383
	382
870	
871	

Phase 3	

Phase 4	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
106

Phase 2
871

Phase 3
12

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
989

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Piper Ranch

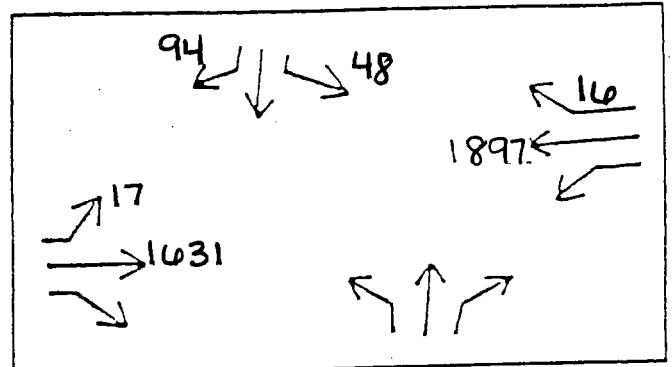
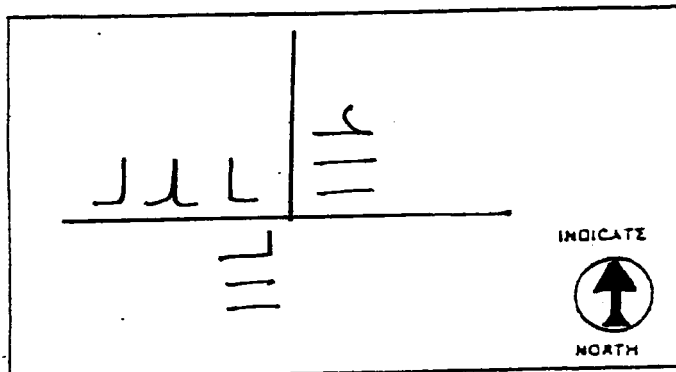
DIST. CO. RTE. P.M. 11/SD/905

Existing + Unit 1

BY JB DATE 4-6-10

TIME _____ AM (PM)

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
17	17
17	17

Phase 2	
	632
	633
	632
799	798

Phase 3	
58	58
58	58

Phase 4	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
17

Phase 2
799

Phase 3
48

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
864

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / SR-125 SB Ramp

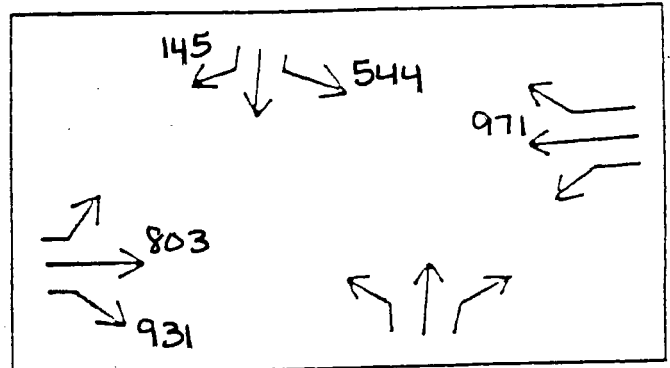
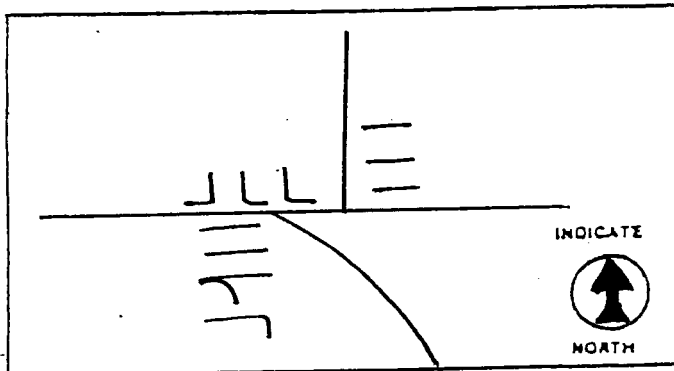
DIST. CO. RTE. P.M. 11/SD/905

Existing + Unit 1

BY JB DATE 4-10-10

TIME (AM) PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
	324
	324
	323
355	
356	
356	
395	

Phase 2	
145	272
272	272
272	

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
395

Phase 2
272

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
667

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / SR-125 SB Ramp

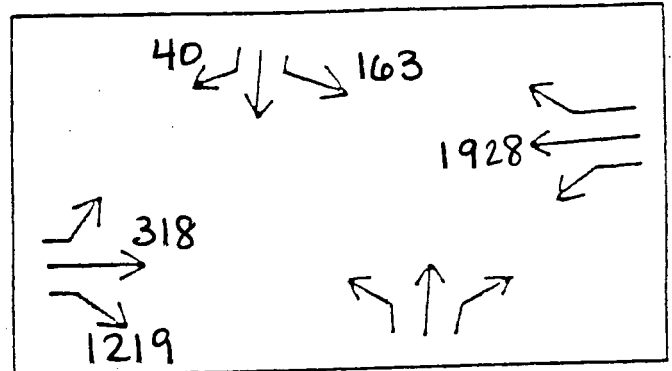
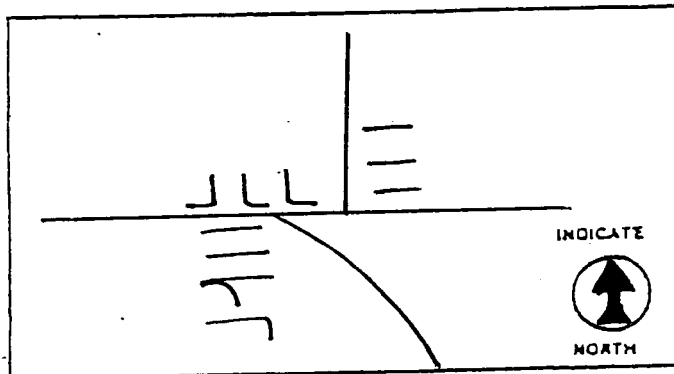
DIST. CO. RTE. P.M. 11/SD/905

Existing + Unit 1

BY JB DATE 4-6-10

TIME _____ AM (PM)

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
	643
	643
	642
159	
159	
568	
569	

Phase 2	
82	

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
643

Phase 2
82

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
725

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

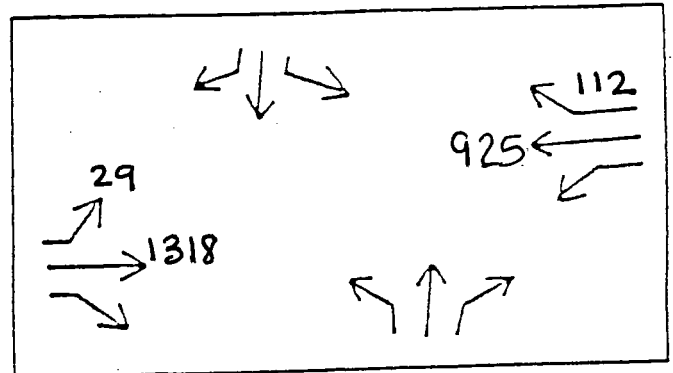
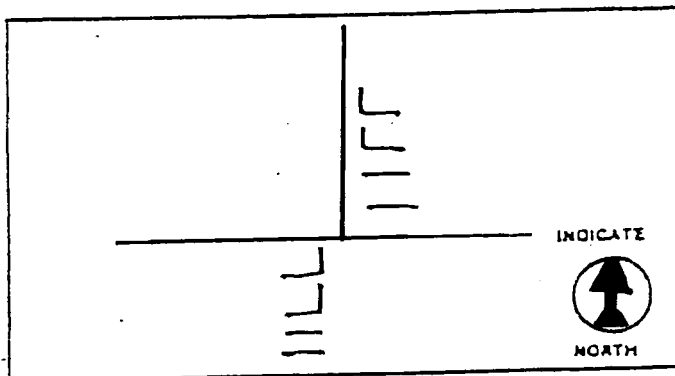
INTERSECTION Otay Mesa/SR-125 NB Ramp DIST. CO. RTE. P.M. 11/50/905

Existing + Unit 1

BY JLB DATE 4-6-10

TIME AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
<div> <div>14</div> <div>15</div> <div>15</div> <div>15</div> </div>	<div> <div>56</div> <div>56</div> <div>462</div> <div>463</div> </div> <div> <div>644</div> <div>644</div> </div>		

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
15	644		

TOTAL OPERATING LEVEL (ILV/hr):

Σ
659

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

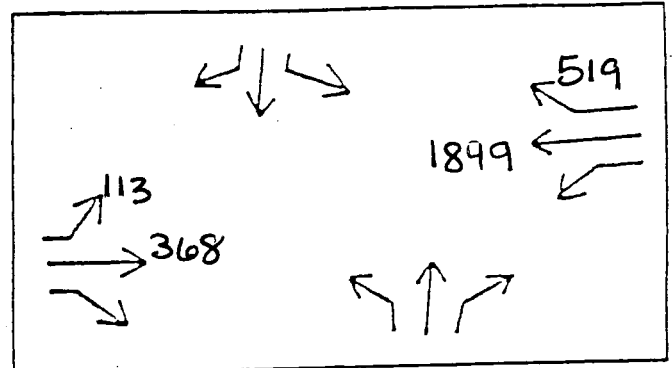
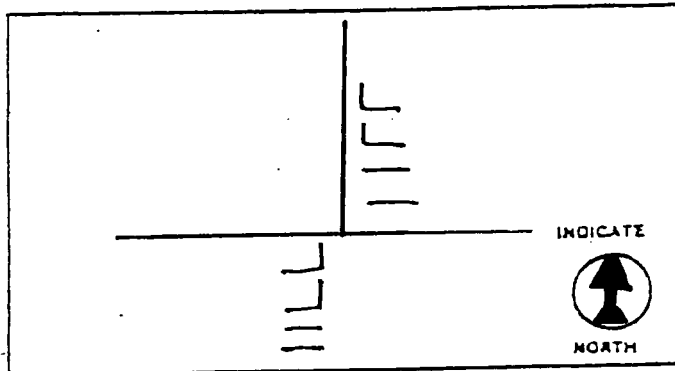
INTERSECTION Otay Mesa/SR-125 NB Ramp DIST. CO. RTE. P.M. 11/50/905

BY JLB DATE 4-6-10

Existing + Unit 1

TIME _____ AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
56	└─┘
57	└─┘
57	└─┘
57	└─┘

Phase 2	
	└─┘ 259
	└─┘ 260
	└─┘ 924
	└─┘ 925
127	—
127	—

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
57

Phase 2
925

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
982

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection CAPACITY ANALYSIS

INTERSECTION Otay Mesa / SR-905 NB
Connector

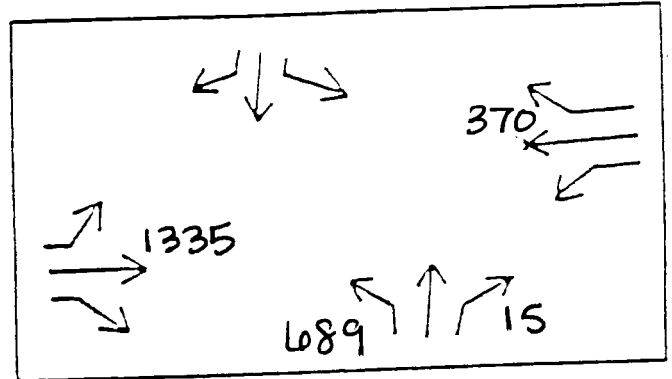
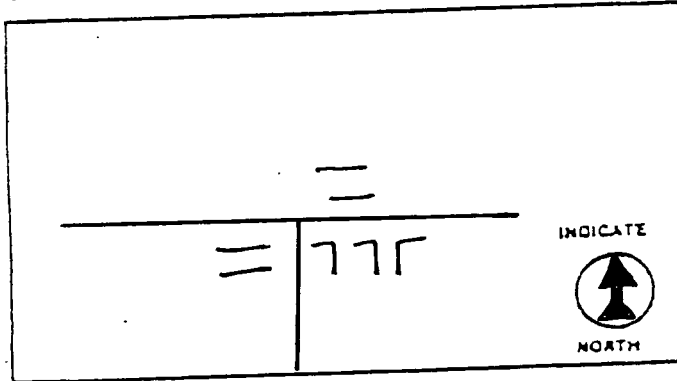
DIST. CO. RTE. P.M. 11/5D/905

BY JB DATE 4-6-10

TIME AM PM

Existing + Unit 1

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
— 185	
— 185	
668 —	
667 —	

Phase 2	
	15
	344
	345

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
668

Phase 2
345

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,013

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / SR-905 NB
Connector

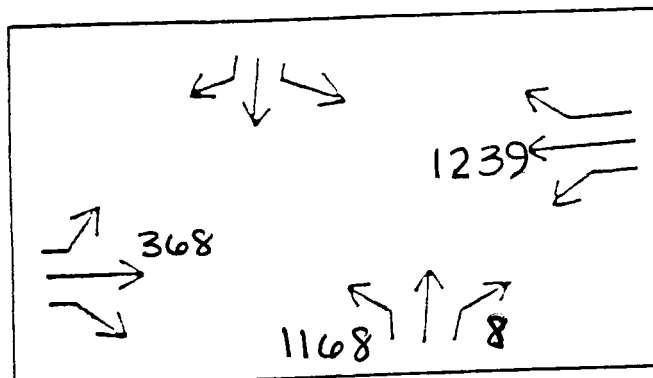
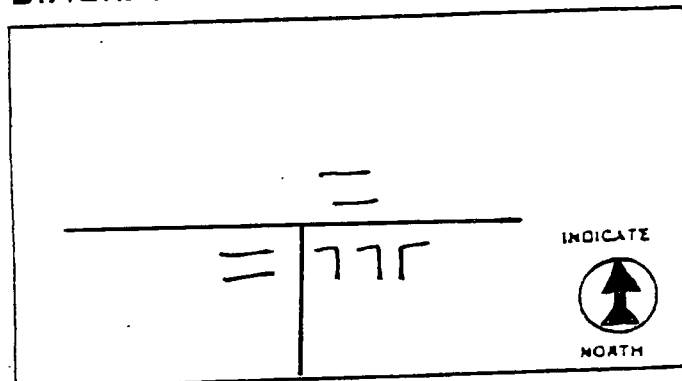
DIST. CO. RTE. P.M. 11/5D/905

BY JTB DATE 4-6-10

TIME AM PM

Existing + Unit 1

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
— 619	
— 620	
184 —	
184 —	

Phase 2	
	777
	550
	88
	88

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
620

Phase 2
584

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,204

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SR-905 SB
Ramp

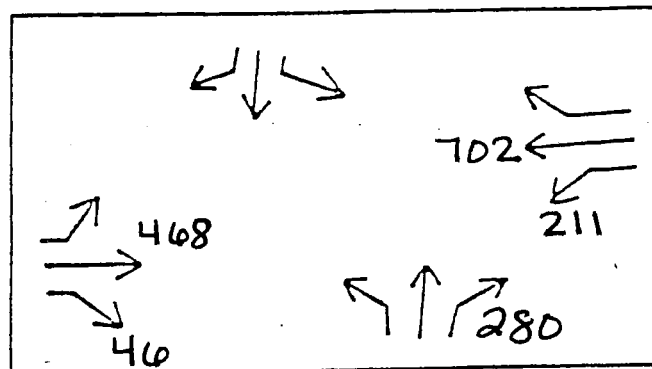
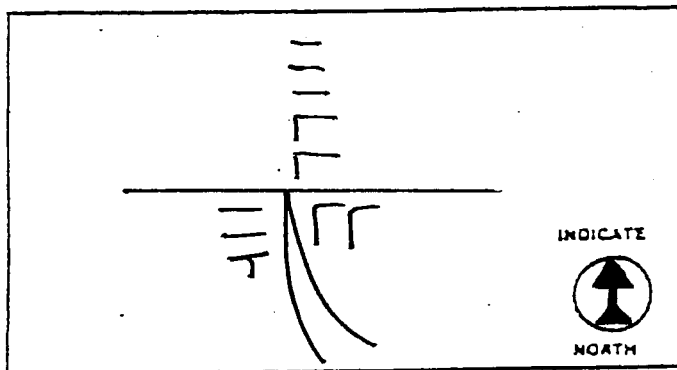
DIST. CO. RTE. P.M. 11 / SD / 905

BY JB DATE 4-6-10

TIME (AM) PM

Existing + Unit 1

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
<div><div><div>—105</div><div>—105</div><div>—105</div><div>└105</div><div>└106</div></div><div><div>└└</div><div>└└</div><div>└└</div></div></div>	<div><div><div>—57</div><div>—58</div><div>—57</div></div><div><div>171—</div><div>172—</div><div>171└</div></div><div><div>└└</div><div>└└</div><div>└└</div></div></div>	<div><div><div>—72</div><div>—72</div><div>—71</div></div><div><div>└└</div><div>└└</div><div>└└</div></div></div>	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
106	172	72	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
350

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SR-905 SB
Ramp

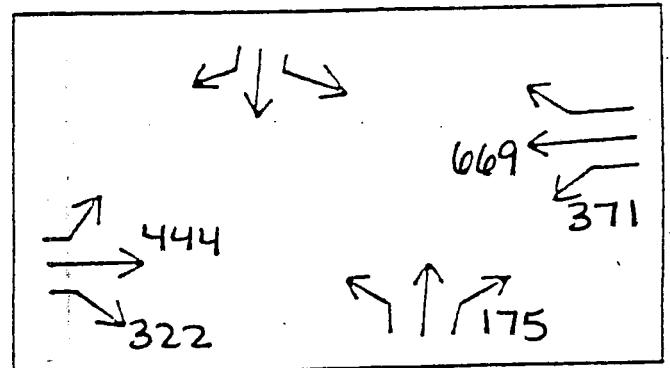
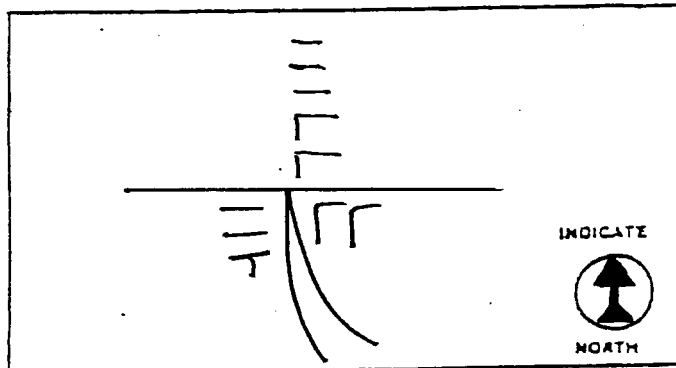
DIST. CO. RTE. P.M. 11 / SD / 905

BY JB DATE 4-6-10

TIME AM (PM)

Existing + Unit 1

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1
— 62
— 62
— 62
└ 186
└ 185
└ 322
└ 322

Phase 2
— 118
— 118
— 118
222
222
322

Phase 3
— 43
— 43
— 43
└ 43
└ 43

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
186

Phase 2
322

Phase 3
43

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
551

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SR-905 NB
Ramp

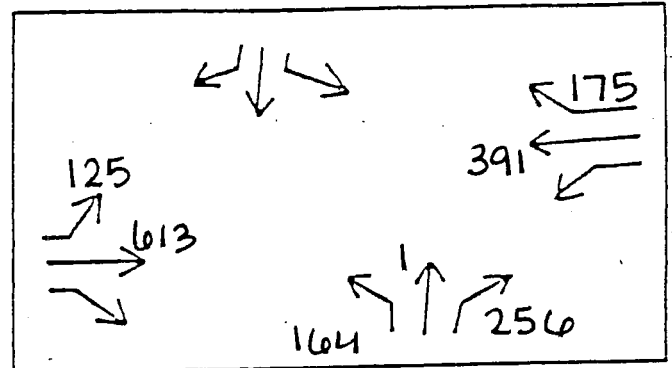
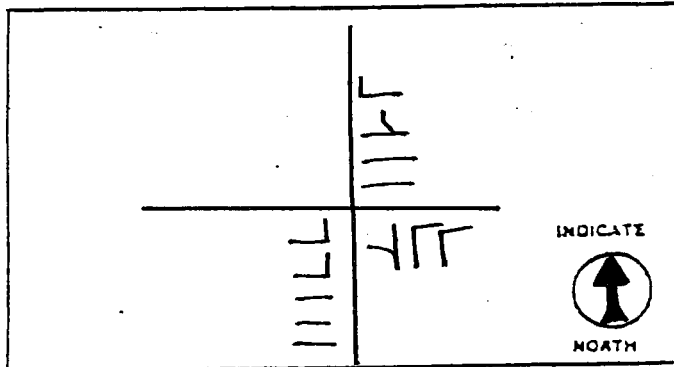
DIST. CO. RTE. P.M. 11/SD/905

BY OLB DATE 4-6-10

TIME (AM) PM

Existing + Unit 1

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
<div>62</div> <div>63</div> <div>63</div> <div>63</div> <div>63</div>	<div>141</div> <div>142</div> <div>142</div> <div>141</div>	<div>128</div> <div>128</div> <div>165</div>	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
63	142	165	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
370

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SE-905 NB
Ramp

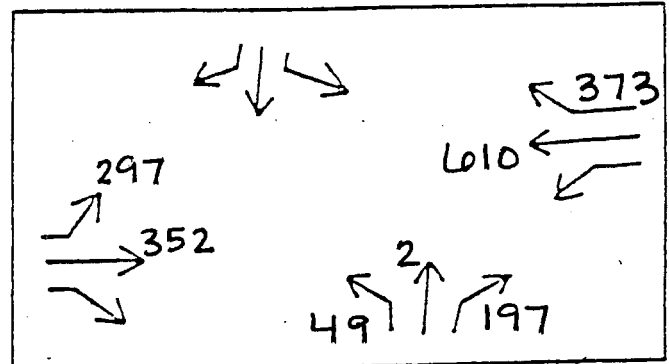
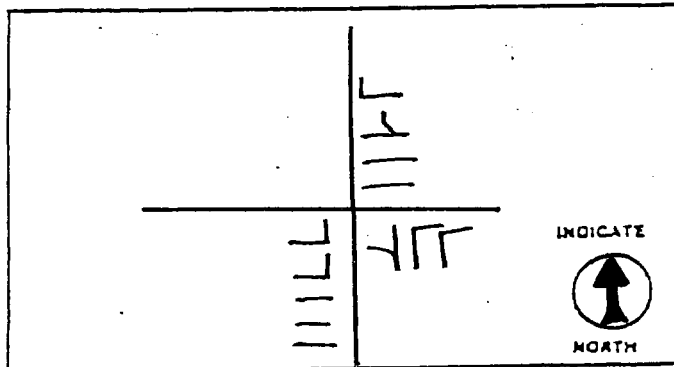
DIST. CO. RTE. P.M. 11/SD/905

Existing + Unit 1

BY DB DATE 4-6-10

TIME AM (PM)

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
<div>148</div> <div>149</div> <div>49</div> <div>50</div> <div>50</div>	<div>245</div> <div>246</div> <div>246</div> <div>246</div> <div>67</div> <div>68</div> <div>68</div>	<div>51</div> <div>99</div> <div>99</div>	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
149	246	99	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
494

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

APPENDIX F

- Existing + Project Units 1-2 Arterial Synchro Analysis Worksheets
 - Existing + Project Units 1-2 Synchro Analysis Worksheets
 - Existing + Project Units 1-2 Intersection ILV Analysis

Existing + Project Units 1-2 Arterial Synchro Analysis Worksheets

Arterial Level of Service: EB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Heritage Road	II	45	28.4	50.4	78.8	0.27	12.5	F
Cactus Rd	II	45	44.7	16.1	60.8	0.51	30.1	B
Brittania Blvd	II	45	45.5	33.8	79.3	0.52	23.5	C
La Media	II	45	83.0	7.3	90.3	1.04	41.4	A
Piper Ranch Rd	II	45	44.3	9.4	53.7	0.50	33.8	B
	II	45	25.6	11.9	37.5	0.25	23.6	C
SR125 NB Ramp	II	45	14.8	1.2	16.0	0.14	30.5	B
SR905	II	45	15.0	33.3	48.3	0.14	10.3	F
Sanyo Ave	II	45	27.8	7.5	35.3	0.27	27.3	C
Enrico Fermi Dr	II	45	62.8	247.5	310.3	0.78	9.1	F
Total	II		391.9	418.4	810.3	4.41	19.6	D

Arterial Level of Service: WB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Enrico Fermi Dr	II	45	43.2	3.1	46.3	0.49	38.2	A
Sanyo Ave	II	45	62.8	2.2	65.0	0.78	43.4	A
SR905	II	45	27.8	7.3	35.1	0.27	27.4	C
SR125 NB Ramp	II	45	15.0	9.3	24.3	0.14	20.4	D
SR125 SB	II	45	14.8	9.2	24.0	0.14	20.3	D
Piper Ranch Rd	II	45	25.6	2.7	28.3	0.25	31.3	B
La Media	II	45	44.3	11.6	55.9	0.50	32.4	B
Brittania Blvd	II	45	83.0	3.2	86.2	1.04	43.4	A
Cactus Rd	II	45	45.5	2.2	47.7	0.52	39.0	A
Heritage Road	II	45	44.7	15.4	60.1	0.51	30.4	B
Total	II		406.7	66.2	472.9	4.63	35.2	A

































Arterial Level of Service: EB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Heritage Road	II	45	28.4	18.3	46.7	0.27	21.0	D
Cactus Rd	II	45	44.7	15.0	59.7	0.51	30.6	B
Brittania Blvd	II	45	45.5	9.1	54.6	0.52	34.1	B
La Media	II	45	83.0	25.8	108.8	1.04	34.3	B
Piper Ranch Rd	II	45	43.8	4.5	48.3	0.50	37.1	A
	II	45	26.2	1.8	28.0	0.25	32.4	B
SR125 NB Ramp	II	45	14.7	0.1	14.8	0.14	32.9	B
SR905	II	45	15.0	13.7	28.7	0.14	17.3	D
Sanyo Ave	II	45	27.8	12.0	39.8	0.27	24.2	C
Enrico Fermi Rd	II	45	62.8	19.3	82.1	0.78	34.4	B
Total	II		391.9	119.6	511.5	4.41	31.0	B

Arterial Level of Service: WB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Enrico Fermi Rd	II	45	43.2	6.4	49.6	0.49	35.6	A
Sanyo Ave	II	45	62.8	207.9	270.7	0.78	10.4	F
SR905	II	45	27.8	119.4	147.2	0.27	6.5	F
SR125 NB Ramp	II	45	15.0	5.0	20.0	0.14	24.8	C
SR125 SB	II	45	14.7	1.6	16.3	0.14	29.9	B
Piper Ranch Rd	II	45	26.2	2.8	29.0	0.25	31.3	B
La Media	II	45	43.8	30.0	73.8	0.50	24.3	C
Brittania Blvd	II	45	83.0	19.5	102.5	1.04	36.5	A
Cactus Rd	II	45	45.5	6.4	51.9	0.52	35.9	A
Heritage Road	II	45	44.7	37.5	82.2	0.51	22.2	C
Total	II		406.7	436.5	843.2	4.63	19.8	D

Existing + Project Units 1-2 Synchro Analysis Worksheets

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 			 	 
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frt			0.850			0.850		0.886				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4803	1583	3433	4803	1583	1770	1650	0	1770	1863	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4803	1583	3433	4803	1583	1770	1650	0	1770	1863	2787
Satd. Flow (RTOR)			173			83		41				58
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	105	3065	194	42	1120	74	54	22	70	247	37	52
Adj. Flow (vph)	118	3444	218	47	1258	83	61	25	79	278	42	58
Lane Group Flow (vph)	118	3444	218	47	1258	83	61	104	0	278	42	58
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot			Prot		pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases			2			6						4
Total Split (s)	15.2	122.0	22.5	8.5	115.3	27.0	22.5	22.5	0.0	27.0	27.0	15.2
Act Effect Green (s)	11.3	125.5	155.4	4.5	117.1	144.1	25.8	12.7		23.0	9.8	21.1
Actuated g/C Ratio	0.06	0.70	0.86	0.02	0.65	0.80	0.14	0.07		0.13	0.05	0.12
v/c Ratio	0.55	1.03	0.16	0.55	0.40	0.06	0.24	0.68		1.23	0.41	0.15
Control Delay	91.6	50.4	0.8	106.0	15.4	0.9	70.4	69.5		196.2	93.5	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	91.6	50.4	0.8	106.0	15.4	0.9	70.4	69.5		196.2	93.5	10.2
LOS	F	D	A	F	B	A	E	E		F	F	B
Approach Delay		48.8			17.6			69.8			156.3	
Approach LOS		D			B			E			F	

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.23

Intersection Signal Delay: 49.0



























Intersection LOS: D
























Intersection Capacity Utilization 86.2%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 1: Otay Mesa Road & Heritage Road

												
ø2	ø2	ø2	ø2	ø2	ø2	ø2	ø2	ø2	ø2	ø2	ø2	ø2
122 s	122 s	122 s	122 s	122 s	122 s	122 s	122 s	122 s	122 s	122 s	122 s	122 s
												
ø5	ø6	ø5	ø6	ø5	ø6	ø5	ø6	ø5	ø6	ø5	ø6	ø5
15.2 s	115.3 s	15.2 s	115.3 s	15.2 s	115.3 s	15.2 s	115.3 s	15.2 s	115.3 s	15.2 s	115.3 s	15.2 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frt			0.850			0.850		0.918				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4803	1583	3433	4803	1583	1770	1710	0	1770	1863	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4803	1583	3433	4803	1583	1770	1710	0	1770	1863	2787
Satd. Flow (RTOR)			157			217		27				88
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	189	1683	152	59	2601	232	133	58	71	222	65	220
Adj. Flow (vph)	195	1735	157	61	2681	239	137	60	73	229	67	227
Lane Group Flow (vph)	195	1735	157	61	2681	239	137	133	0	229	67	227
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot			Prot		pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases			2			6						4
Total Split (s)	16.0	117.4	27.4	11.1	112.5	31.0	27.4	20.5	0.0	31.0	24.1	16.0
Act Effct Green (s)	11.8	109.1	137.3	7.0	101.5	126.2	27.1	14.3		24.7	11.9	23.7
Actuated g/C Ratio	0.07	0.65	0.81	0.04	0.60	0.75	0.16	0.08		0.15	0.07	0.14
v/c Ratio	0.81	0.56	0.12	0.44	0.93	0.19	0.48	0.78		0.88	0.51	0.49
Control Delay	103.9	18.3	0.5	93.8	37.5	0.8	73.3	91.4		104.3	92.6	30.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	103.9	18.3	0.5	93.8	37.5	0.8	73.3	91.4		104.3	92.6	30.1
LOS	F	B	A	F	D	A	E	F		F	F	C
Approach Delay		25.0			35.7			82.2			70.6	
Approach LOS		C			D			F			E	

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 168.7

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 37.1

























Intersection Capacity Utilization 88.7%























Analysis Period (min) 15

Intersection LOS: D

ICU Level of Service E

Splits and Phases: 1: Otay Mesa Road & Heritage Road

											
11.1 s	117.4 s		24.1 s	27.4 s		20.5 s	31 s				
											
16 s	112.5 s										

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frts		0.998			0.999				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4797	0	1770	4799	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4797	0	1770	4799	0	1770	1863	1583	1770	1863	1583
Satd. Flow (RTOR)		3			1				28			97
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	8	3579	58	56	1317	5	22	1	112	3	0	5
Adj. Flow (vph)	9	3933	64	62	1447	5	24	1	123	3	0	5
Lane Group Flow (vph)	9	3997	0	62	1452	0	24	1	123	3	0	5
Turn Type	Prot			Prot			Prot	pm+ov		Prot		pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases									8			4
Total Split (s)	8.5	134.5	0.0	15.0	141.0	0.0	10.0	22.0	15.0	8.5	20.5	8.5
Act Effct Green (s)	7.0	150.6		13.6	164.9		7.9	6.2	19.7	4.5		7.0
Actuated g/C Ratio	0.04	0.84		0.08	0.92		0.04	0.03	0.11	0.02		0.04
v/c Ratio	0.13	1.00		0.47	0.33		0.31	0.02	0.62	0.07		0.03
Control Delay	88.2	16.1		90.4	2.2		92.4	84.0	70.9	89.0		0.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Total Delay	88.2	16.1		90.4	2.2		92.4	84.0	70.9	89.0		0.4
LOS	F	B		F	A		F	F	E	F		A
Approach Delay		16.3			5.8			74.5				
Approach LOS		B			A			E				

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 26 (14%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 15.0









Intersection LOS: B

Intersection Capacity Utilization 90.7%























ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 2: Otay Mesa Road & Cactus Rd

			
ø1	ø2	ø4	ø4
15 s	134.5 s	10 s	20.5 s
			
ø6	ø6	ø8	ø8
8.5 s	141 s	8.5 s	22 s

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frts		0.996			0.999				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4790	0	1770	4799	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4790	0	1770	4799	0	1770	1863	1583	1770	1863	1583
Satd. Flow (RTOR)		3			1				98			54
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	6	2222	58	113	3242	16	43	1	117	4	0	15
Adj. Flow (vph)	6	2267	59	115	3308	16	44	1	119	4	0	15
Lane Group Flow (vph)	6	2326	0	115	3324	0	44	1	119	4	0	15
Turn Type	Prot			Prot			Prot		pm+ov	Prot		pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases									8			4
Total Split (s)	14.5	104.9	0.0	28.5	118.9	0.0	20.1	32.1	28.5	14.5	26.5	14.5
Act Effct Green (s)	6.7	129.9		29.2	157.1		11.1	8.7	39.1	6.5		6.7
Actuated g/C Ratio	0.04	0.72		0.16	0.87		0.06	0.05	0.22	0.04		0.04
v/c Ratio	0.09	0.67		0.40	0.79		0.40	0.01	0.28	0.06		0.14
Control Delay	86.2	15.0		65.3	6.4		90.7	82.0	15.5	85.5		2.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Total Delay	86.2	15.0		65.3	6.4		90.7	82.0	15.5	85.5		2.5
LOS	F	B		E	A		F	F	B	F		A
Approach Delay		15.2			8.3			36.1				
Approach LOS		B			A			D				

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 139 (77%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 11.8









Intersection Capacity Utilization 85.4%







Analysis Period (min) 15

Intersection LOS: B

ICU Level of Service E

Splits and Phases: 2: Otay Mesa Road & Cactus Rd

			
ø2	ø1	ø3	ø4
104.9 s	28.5 s	20.1 s	26.5 s
			
ø5	ø6	ø7	ø8
14.5 s	118.9 s	14.5 s	32.1 s

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↓	↑↑↑	↓↓	↑
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Fr _t		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4803	1583	1770	4803	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4803	1583	1770	4803	3433	1583
Satd. Flow (RTOR)		435				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	2871	669	46	1208	176	41
Adj. Flow (vph)	3378	787	54	1421	207	48
Lane Group Flow (vph)	3378	787	54	1421	207	48
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Total Split (s)	70.6	36.3	13.1	83.7	36.3	13.1
Act Effct Green (s)	84.8	106.3	8.5	95.2	16.8	28.5
Actuated g/C Ratio	0.71	0.89	0.07	0.79	0.14	0.24
v/c Ratio	1.00	0.54	0.43	0.37	0.43	0.13
Control Delay	33.8	2.3	53.5	3.2	48.9	33.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.8	2.3	53.5	3.2	48.9	33.4
LOS	C	A	D	A	D	C
Approach Delay	27.9			5.1	46.0	
Approach LOS	C			A	D	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 23.0





Intersection LOS: C







Intersection Capacity Utilization 67.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Otay Mesa Road & Britannia Blvd

 ø2	 ø1
70.6 s	13.1 s
 ø6	 ø8
83.7 s	36.3 s

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑	↑↑↑	↑↑	↑
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Fr't		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4803	1583	1770	4803	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4803	1583	1770	4803	3433	1583
Satd. Flow (RTOR)		309				4
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1901	287	52	2749	587	46
Adj. Flow (vph)	2044	309	56	2956	631	49
Lane Group Flow (vph)	2044	309	56	2956	631	49
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Total Split (s)	95.2	60.6	24.2	119.4	60.6	24.2
Act Effct Green (s)	117.5	160.6	11.4	132.9	39.1	54.5
Actuated g/C Ratio	0.65	0.89	0.06	0.74	0.22	0.30
v/c Ratio	0.65	0.21	0.50	0.83	0.85	0.10
Control Delay	9.1	0.8	95.8	19.5	78.8	39.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.1	0.8	95.8	19.5	78.8	39.4
LOS	A	A	F	B	E	D
Approach Delay	8.0			20.9	76.0	
Approach LOS	A			C	E	

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 170 (94%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 22.1





Intersection LOS: C

Intersection Capacity Utilization 76.5%



























ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: Otay Mesa Road & Britannia Blvd

		
24.2 s	95.2 s	
		
119.4 s		60.6 s

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  					 		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Fr _t			0.850		0.994			0.939			0.913	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4803	1583	1770	4784	0	1770	1690	0	3433	1659	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4803	1583	1770	4784	0	1770	1690	0	3433	1659	0
Satd. Flow (RTOR)			245		8			17			48	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	71	2284	233	87	1147	44	75	24	16	73	52	71
Adj. Flow (vph)	75	2404	245	92	1207	46	79	25	17	77	55	75
Lane Group Flow (vph)	75	2404	245	92	1253	0	79	42	0	77	130	0
Turn Type	Prot		pm+ov	Prot			Prot			Prot		
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Total Split (s)	11.8	66.8	13.5	17.0	72.0	0.0	13.5	25.0	0.0	11.2	22.7	0.0
Act Effct Green (s)	7.7	71.6	84.6	11.6	77.7		9.0	10.1		12.6	11.8	
Actuated g/C Ratio	0.06	0.60	0.70	0.10	0.65		0.08	0.08		0.10	0.10	
v/c Ratio	0.66	0.84	0.21	0.54	0.40		0.59	0.27		0.21	0.63	
Control Delay	45.9	7.3	0.5	62.9	11.6		72.1	39.9		49.1	45.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	45.9	7.3	0.5	62.9	11.6		72.1	39.9		49.1	45.3	
LOS	D	A	A	E	B		E	D		D	D	
Approach Delay		7.8			15.1			60.9			46.7	
Approach LOS		A			B			E			D	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 87 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 13.3









Intersection Capacity Utilization 73.5%

Analysis Period (min) 15



























Intersection LOS: B

ICU Level of Service D

Splits and Phases: 4: Otay Mesa Road & La Media

			
ø1	ø2	ø3	ø4
17 s	66.8 s	13.5 s	22.7 s
			
ø6	ø5	ø8	ø7
72 s	11.8 s	25 s	11.2 s

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  					 		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Frst			0.850		0.997			0.922			0.903	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4803	1583	1770	4793	0	1770	1670	0	3433	1648	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4803	1583	1770	4793	0	1770	1670	0	3433	1648	0
Satd. Flow (RTOR)			249		3			25			54	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	70	1674	239	55	2321	44	158	22	24	67	63	116
Adj. Flow (vph)	73	1744	249	57	2418	46	165	23	25	70	66	121
Lane Group Flow (vph)	73	1744	249	57	2464	0	165	48	0	70	187	0
Turn Type	Prot		pm+ov	Prot			Prot			Prot		
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Total Split (s)	15.0	71.0	25.9	22.0	78.0	0.0	25.9	30.1	0.0	16.9	21.1	0.0
Act Effct Green (s)	9.9	77.5	99.4	15.4	83.1		17.9	12.1		23.1	15.2	
Actuated g/C Ratio	0.07	0.55	0.71	0.11	0.59		0.13	0.09		0.16	0.11	
v/c Ratio	0.58	0.66	0.21	0.29	0.87		0.73	0.29		0.12	0.82	
Control Delay	81.2	25.8	1.4	59.7	30.0		76.8	39.8		47.6	70.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	81.2	25.8	1.4	59.7	30.0		76.8	39.8		47.6	70.1	
LOS	F	C	A	E	C		E	D		D	E	
Approach Delay		24.8			30.7			68.5			64.0	
Approach LOS		C			C			E			E	

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 31.6









Intersection LOS: C












Intersection Capacity Utilization 82.2%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 4: Otay Mesa Road & La Media

 ø2	 ø1	 ø4	 ø3
71 s	22 s	21.1 s	25.9 s
 ø6	 ø5	 ø8	 ø7
78 s	15 s	30.1 s	16.9 s

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.91	0.91	0.97	0.91
Fr _t			0.996		0.972	0.850
Flt Protected	0.950				0.961	
Satd. Flow (prot)	1770	3539	5065	0	3376	1441
Flt Permitted	0.950				0.961	
Satd. Flow (perm)	1770	3539	5065	0	3376	1441
Satd. Flow (RTOR)			5		6	14
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	106	2308	1261	30	23	18
Adj. Flow (vph)	119	2593	1417	34	26	20
Lane Group Flow (vph)	119	2593	1451	0	32	14
Turn Type	Prot				custom	
Protected Phases	5	2	6			
Permitted Phases					4	4
Total Split (s)	22.0	64.0	42.0	0.0	26.0	26.0
Act Effct Green (s)	15.8	75.3	57.7		6.7	6.7
Actuated g/C Ratio	0.18	0.84	0.64		0.07	0.07
v/c Ratio	0.38	0.88	0.45		0.12	0.12
Control Delay	35.5	9.4	2.7		34.3	20.8
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	35.5	9.4	2.7		34.3	20.8
LOS	D	A	A		C	C
Approach Delay		10.5	2.7		30.2	
Approach LOS		B	A		C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 9 (10%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 8.0





Intersection Capacity Utilization 73.8%

Analysis Period (min) 15












Intersection LOS: A

ICU Level of Service D

Splits and Phases: 5: Otay Mesa Road & Piper Ranch Rd

 ø2	 ø4
64 s	26 s
 ø6	 ø5
42 s	22 s

040501 - Otay Crossings

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.91	0.91	0.97	0.91
Frt			0.999		0.927	0.850
Flt Protected	0.950				0.975	
Satd. Flow (prot)	1770	3539	5080	0	3266	1441
Flt Permitted	0.950				0.975	
Satd. Flow (perm)	1770	3539	5080	0	3266	1441
Satd. Flow (RTOR)			2		51	51
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	17	1813	2324	22	50	94
Adj. Flow (vph)	18	1971	2526	24	54	102
Lane Group Flow (vph)	18	1971	2550	0	105	51
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Total Split (s)	13.5	64.5	51.0	0.0	25.5	25.5
Act Effct Green (s)	6.9	74.5	69.7		7.5	7.5
Actuated g/C Ratio	0.08	0.83	0.77		0.08	0.08
v/c Ratio	0.13	0.67	0.65		0.33	0.31
Control Delay	40.4	4.5	2.8		24.5	16.5
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	40.4	4.5	2.8		24.5	16.5
LOS	D	A	A		C	B
Approach Delay		4.9	2.8		21.9	
Approach LOS		A	A		C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 4.3





Intersection LOS: A

Intersection Capacity Utilization 60.1%


















ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 5: Otay Mesa Road & Piper Ranch Rd

	ø2				ø4
64.5 s				25.5 s	
	ø5		ø6		
13.5 s		51 s			

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	0.86	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt		0.984	0.850									0.850
Flt Protected										0.950		
Satd. Flow (prot)	0	4729	1362	0	5085	0	0	0	0	3433	0	1583
Flt Permitted										0.950		
Satd. Flow (perm)	0	4729	1362	0	5085	0	0	0	0	3433	0	1583
Satd. Flow (RTOR)		30	863									38
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	1265	931	0	1087	0	0	0	0	676	0	145
Adj. Flow (vph)	0	1471	1083	0	1264	0	0	0	0	786	0	169
Lane Group Flow (vph)	0	1644	910	0	1264	0	0	0	0	786	0	169
Turn Type			Free							Prot		custom
Protected Phases		2			6					4		
Permitted Phases			Free									4
Total Split (s)	0.0	49.8	0.0	0.0	49.8	0.0	0.0	0.0	0.0	40.2	0.0	40.2
Act Effct Green (s)		55.4	90.0		55.4					26.6		26.6
Actuated g/C Ratio		0.62	1.00		0.62					0.30		0.30
v/c Ratio		0.56	0.67		0.40					0.77		0.34
Control Delay		11.9	1.4		9.2					34.2		19.7
Queue Delay		0.0	0.0		0.0					0.0		0.0
Total Delay		11.9	1.4		9.2					34.2		19.7
LOS		B	A		A					C		B
Approach Delay		8.2			9.2							
Approach LOS		A			A							

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 2 (2%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 13.1




Intersection LOS: B


















Intersection Capacity Utilization 57.3%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 6: Otay Mesa Road & SR125 SB

	ø2		ø4
49.8 s		40.2 s	
	ø6		
49.8 s			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	0.86	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Fr't		0.925	0.850									0.850
Flt Protected										0.950		
Satd. Flow (prot)	0	4445	1362	0	5085	0	0	0	0	3433	0	1583
Flt Permitted										0.950		
Satd. Flow (perm)	0	4445	1362	0	5085	0	0	0	0	3433	0	1583
Satd. Flow (RTOR)		612	663									5
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	607	1219	0	2361	0	0	0	0	216	0	40
Adj. Flow (vph)	0	660	1325	0	2566	0	0	0	0	235	0	43
Lane Group Flow (vph)	0	1322	663	0	2566	0	0	0	0	235	0	43
Turn Type			Free							Prot		custom
Protected Phases		2			6					4		
Permitted Phases			Free									4
Total Split (s)	0.0	64.5	0.0	0.0	64.5	0.0	0.0	0.0	0.0	25.5	0.0	25.5
Act Effct Green (s)		70.4	90.0		70.4					11.6		11.6
Actuated g/C Ratio		0.78	1.00		0.78					0.13		0.13
v/c Ratio		0.37	0.49		0.65					0.53		0.21
Control Delay		1.8	0.9		1.6					40.8		33.3
Queue Delay		0.0	0.0		0.1					0.0		0.0
Total Delay		1.8	0.9		1.8					40.8		33.3
LOS		A	A		A					D		C
Approach Delay		1.5			1.8							
Approach LOS		A			A							

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 56 (62%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 3.8




Intersection LOS: A

Intersection Capacity Utilization 73.1%















ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 6: Otay Mesa Road & SR125 SB

	ø2		ø4
64.5 s		25.5 s	
	ø6		
64.5 s			

040501 - Otay Crossings

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	 	 	 	 		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Fr _t				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				167		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	29	1912	1041	145	0	0
Adj. Flow (vph)	33	2198	1197	167	0	0
Lane Group Flow (vph)	33	2198	1197	167	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Total Split (s)	18.0	90.0	72.0	72.0	0.0	0.0
Act Effct Green (s)	23.5	90.0	64.2	64.2		
Actuated g/C Ratio	0.26	1.00	0.71	0.71		
v/c Ratio	0.04	0.62	0.47	0.08		
Control Delay	18.6	1.2	9.3	1.3		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	18.6	1.2	9.3	1.3		
LOS	B	A	A	A		
Approach Delay		1.5	8.3			
Approach LOS		A	A			

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 62 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 4.1




Intersection LOS: A















Intersection Capacity Utilization 57.3%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

	ø2		
90 s			
	ø6		ø5
72 s		18 s	

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	 	 	 	 		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				633		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	113	607	2282	643	0	0
Adj. Flow (vph)	124	667	2508	707	0	0
Lane Group Flow (vph)	124	667	2508	707	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Total Split (s)	17.0	90.0	73.0	73.0	0.0	0.0
Act Effct Green (s)	9.0	90.0	73.0	73.0		
Actuated g/C Ratio	0.10	1.00	0.81	0.81		
v/c Ratio	0.36	0.19	0.87	0.30		
Control Delay	44.7	0.1	5.0	0.1		
Queue Delay	0.0	0.0	2.0	0.0		
Total Delay	44.7	0.1	6.9	0.1		
LOS	D	A	A	A		
Approach Delay		7.1	5.4			
Approach LOS		A	A			

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 33 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 5.8

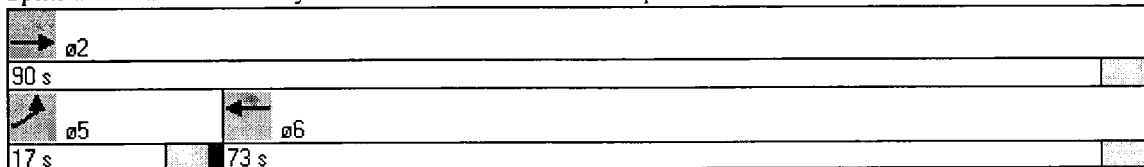
Intersection LOS: A

Intersection Capacity Utilization 73.1%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp



040501 - Otay Crossings

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Fr _t						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	3433	1583
Satd. Flow (RTOR)						1
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1929	0	0	518	689	15
Adj. Flow (vph)	2243	0	0	602	801	17
Lane Group Flow (vph)	2243	0	0	602	801	17
Turn Type						Perm
Protected Phases	2			6	8	
Permitted Phases						8
Total Split (s)	44.5	0.0	0.0	44.5	45.5	45.5
Act Effct Green (s)	57.2			57.2	24.8	24.8
Actuated g/C Ratio	0.64			0.64	0.28	0.28
v/c Ratio	1.00			0.27	0.85	0.04
Control Delay	33.3			7.3	42.4	16.8
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	33.3			7.3	42.4	16.8
LOS	C			A	D	B
Approach Delay	33.3			7.3	41.9	
Approach LOS	C			A	D	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 82 (91%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 31.0
 Intersection Capacity Utilization 79.6%
 Analysis Period (min) 15

Intersection LOS: C
ICU Level of Service D

Splits and Phases: 8: Otay Mesa Road & SR905

→ ø2		
44.5 s		
← ø6		↖ ø8
44.5 s		45.5 s

040501 - Otay Crossings

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	3433	1583
Satd. Flow (RTOR)						9
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	607	0	0	1796	1168	8
Adj. Flow (vph)	667	0	0	1974	1284	9
Lane Group Flow (vph)	667	0	0	1974	1284	9
Turn Type						Perm
Protected Phases	2			6	8	
Permitted Phases						8
Total Split (s)	39.0	0.0	0.0	39.0	51.0	51.0
Act Effct Green (s)	41.4			41.4	40.6	40.6
Actuated g/C Ratio	0.46			0.46	0.45	0.45
v/c Ratio	0.41			1.21	0.83	0.01
Control Delay	13.7			119.4	23.8	4.9
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	13.7			119.4	23.8	4.9
LOS	B			F	C	A
Approach Delay	13.7			119.4	23.7	
Approach LOS	B			F	C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 26 (29%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.21

Intersection Signal Delay: 70.0

Intersection LOS: E

Intersection Capacity Utilization 89.6%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 8: Otay Mesa Road & SR905

→ ø2	
39 s	
← ø6	↖ ø8
39 s	51 s

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑	↖↗	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.984				0.965	
Flt Protected			0.950		0.963	
Satd. Flow (prot)	3483	0	1770	1863	3358	0
Flt Permitted			0.950		0.963	
Satd. Flow (perm)	3483	0	1770	1863	3358	0
Satd. Flow (RTOR)	19				12	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1635	200	24	505	32	10
Adj. Flow (vph)	2044	250	30	631	40	12
Lane Group Flow (vph)	2294	0	30	631	52	0
Turn Type			Prot			
Protected Phases	2		1	6	3	
Permitted Phases						
Total Split (s)	45.2	0.0	21.5	66.7	23.3	0.0
Act Effect Green (s)	75.5		7.4	80.7	7.0	
Actuated g/C Ratio	0.84		0.08	0.90	0.08	
v/c Ratio	0.78		0.21	0.38	0.19	
Control Delay	7.5		41.4	2.2	33.1	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	7.5		41.4	2.2	33.1	
LOS	A		D	A	C	
Approach Delay	7.5			4.0	33.1	
Approach LOS	A			A	C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 7.2

Intersection LOS: A

Intersection Capacity Utilization 61.6%











ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

↙ ø1	→ ø2	↖ ø3
21.5 s	45.2 s	23.3 s
← ø6		
66.7 s		

040501 - Otay Crossings

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.987				0.996	
Flt Protected			0.950		0.954	
Satd. Flow (prot)	3493	0	1770	1863	3434	0
Flt Permitted			0.950		0.954	
Satd. Flow (perm)	3493	0	1770	1863	3434	0
Satd. Flow (RTOR)	16				3	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	559	54	12	1670	185	5
Adj. Flow (vph)	690	67	15	2062	228	6
Lane Group Flow (vph)	757	0	15	2062	234	0
Turn Type			Prot			
Protected Phases	2		1	6	3	
Permitted Phases						
Total Split (s)	48.4	0.0	17.5	65.9	24.1	0.0
Act Effct Green (s)	68.0		6.7	70.4	11.6	
Actuated g/C Ratio	0.76		0.07	0.78	0.13	
v/c Ratio	0.29		0.11	1.41	0.53	
Control Delay	12.0		40.4	207.9	40.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	12.0		40.4	207.9	40.2	
LOS	B		D	F	D	
Approach Delay	12.0			206.7	40.2	
Approach LOS	B			F	D	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.41

Intersection Signal Delay: 146.0





Intersection LOS: F

Intersection Capacity Utilization 100.0%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

 ø1	 ø2	 ø3
17.5 s	48.4 s	24.1 s
 ø6		
65.9 s		

040501 - Otay Crossings

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩		↩	↩	↩	↩
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.999					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1861	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1861	0	1770	1863	1770	1583
Satd. Flow (RTOR)						215
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1679	11	43	392	55	183
Adj. Flow (vph)	1975	13	51	461	65	215
Lane Group Flow (vph)	1988	0	51	461	65	215
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	65.5	0.0	21.0	86.5	33.5	33.5
Act Effect Green (s)	62.3		8.5	70.0	9.3	9.3
Actuated g/C Ratio	0.71		0.09	0.80	0.11	0.11
v/c Ratio	1.50		0.31	0.31	0.34	0.60
Control Delay	247.5		44.5	3.1	43.1	13.1
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	247.5		44.5	3.1	43.1	13.1
LOS	F		D	A	D	B
Approach Delay	247.5			7.2	20.1	
Approach LOS	F			A	C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 87.4

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.50

Intersection Signal Delay: 180.3

Intersection Capacity Utilization 107.0%

Analysis Period (min) 15

Intersection LOS: F

ICU Level of Service G

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

↙ ø1	→ ø2	
21 s	65.5 s	
← ø6		↖ ø8
86.5 s		33.5 s

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↘		↙	↗	↖	↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.999					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1861	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1861	0	1770	1863	1770	1583
Satd. Flow (RTOR)						87
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	543	4	167	709	36	80
Adj. Flow (vph)	590	4	182	771	39	87
Lane Group Flow (vph)	594	0	182	771	39	87
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	60.3	0.0	25.2	85.5	34.5	34.5
Act Effct Green (s)	23.3		11.5	35.5	8.2	8.2
Actuated g/C Ratio	0.44		0.21	0.67	0.15	0.15
v/c Ratio	0.73		0.49	0.62	0.14	0.27
Control Delay	19.3		26.9	6.4	28.3	10.6
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	19.3		26.9	6.4	28.3	10.6
LOS	B		C	A	C	B
Approach Delay	19.3			10.3	16.1	
Approach LOS	B			B	B	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 53

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 13.9

Intersection LOS: B

Intersection Capacity Utilization 51.4%

ICU Level of Service A

Analysis Period (min) 15

















Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Rd

↙ ø1	→ ø2	
25.2 s	60.3 s	
← ø6		↖ ø8
85.5 s		34.5 s

















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14: Otay Mesa Road & Alta Rd.

Ex+Otay Crossings - Units 1-2- AM


















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	652	731	625	0	193	0	154	1	0	0	4	168
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	709	795	679	0	210	0	167	1	0	0	4	183
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	2183	210	168	187								
Volume Left (vph)	709	0	167	0								
Volume Right (vph)	679	0	0	183								
Hadj (s)	-0.09	0.03	0.23	-0.55								
Departure Headway (s)	5.4	6.3	7.0	6.2								
Degree Utilization, x	3.30	0.36	0.33	0.32								
Capacity (veh/h)	666	539	490	547								
Control Delay (s)	1050.8	12.8	13.4	12.2								
Approach Delay (s)	1050.8	12.8	13.4	12.2								
Approach LOS	F	B	B	B								
Intersection Summary												
Delay			837.3									
HCM Level of Service			F									
Intersection Capacity Utilization			155.4%		ICU Level of Service					H		
Analysis Period (min)			15									

040501 - Otay Crossings

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	101	295	251	0	723	0	552	0	0	0	1	726
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	116	339	289	0	831	0	634	0	0	0	1	834
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	744	831	634	836								
Volume Left (vph)	116	0	634	0								
Volume Right (vph)	289	0	0	834								
Hadj (s)	-0.17	0.03	0.23	-0.57								
Departure Headway (s)	9.4	9.6	9.8	9.0								
Degree Utilization, x	1.94	2.22	1.73	2.09								
Capacity (veh/h)	389	382	372	407								
Control Delay (s)	454.6	576.6	361.7	518.9								
Approach Delay (s)	454.6	576.6	361.7	518.9								
Approach LOS	F	F	F	F								
Intersection Summary												
Delay			486.2									
HCM Level of Service			F									
Intersection Capacity Utilization			163.4%		ICU Level of Service					H		
Analysis Period (min)			15									


















040501 - Otay Crossings

17: Airway Rd & La Media
Ex+Otay Crossings - Units 1-2- AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	9	84	60	24	80	49	57	101	3	209	255	46
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	10	93	67	27	89	54	63	112	3	232	283	51
Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2							
Volume Total (vph)	170	170	179	232	334							
Volume Left (vph)	10	27	63	232	0							
Volume Right (vph)	67	54	3	0	51							
Hadj (s)	-0.19	-0.13	0.16	0.53	0.01							
Departure Headway (s)	5.9	6.0	6.0	6.4	5.8							
Degree Utilization, x	0.28	0.28	0.30	0.41	0.54							
Capacity (veh/h)	552	546	547	548	601							
Control Delay (s)	11.2	11.3	11.6	12.5	14.3							
Approach Delay (s)	11.2	11.3	11.6	13.6								
Approach LOS	B	B	B	B								
Intersection Summary												
Delay			12.5									
HCM Level of Service			B									
Intersection Capacity Utilization			50.5%		ICU Level of Service					A		
Analysis Period (min)			15									




















040501 - Otay Crossings

17: Airway Rd & La Media
Ex+Otay Crossings - Units 1-2- PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	38	145	83	82	116	119	72	180	8	143	171	23
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Hourly flow rate (vph)	38	146	84	83	117	120	73	182	8	144	173	23
Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2							
Volume Total (vph)	269	320	263	144	196							
Volume Left (vph)	38	83	73	144	0							
Volume Right (vph)	84	120	8	0	23							
Hadj (s)	-0.12	-0.14	0.14	0.53	0.04							
Departure Headway (s)	6.5	6.4	6.9	7.6	7.1							
Degree Utilization, x	0.49	0.57	0.50	0.30	0.38							
Capacity (veh/h)	497	516	478	440	462							
Control Delay (s)	15.5	17.3	16.6	12.6	13.2							
Approach Delay (s)	15.5	17.3	16.6	13.0								
Approach LOS	C	C	C	B								
Intersection Summary												
Delay			15.5									
HCM Level of Service			C									
Intersection Capacity Utilization			64.8%			ICU Level of Service				C		
Analysis Period (min)			15									




















040501 - Otay Crossings











19: Airway Rd & Sanyo Ave
Ex+Otay Crossings - Units 1-2- AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	14	81	91	4	105	9	31	15	3	59	121	12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	15	87	98	4	113	10	33	16	3	63	130	13
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2					
Volume Total (vph)	200	117	10	33	19	194	13					
Volume Left (vph)	15	4	0	33	0	63	0					
Volume Right (vph)	98	0	10	0	3	0	13					
Hadj (s)	-0.24	0.05	-0.67	0.53	-0.08	0.20	-0.67					
Departure Headway (s)	5.1	5.5	4.8	6.2	5.5	5.6	4.8					
Degree Utilization, x	0.29	0.18	0.01	0.06	0.03	0.30	0.02					
Capacity (veh/h)	664	618	705	544	600	606	709					
Control Delay (s)	10.2	8.5	6.6	8.3	7.5	9.9	6.6					
Approach Delay (s)	10.2	8.3		8.0		9.7						
Approach LOS	B	A		A		A						
Intersection Summary												
Delay			9.4									
HCM Level of Service			A									
Intersection Capacity Utilization			40.2%		ICU Level of Service					A		
Analysis Period (min)			15									











040501 - Otay Crossings

19: Airway Rd & Sanyo Ave
Ex+Otay Crossings - Units 1-2- PM











												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	4	60	51	4	222	55	79	126	2	21	26	35
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	5	69	59	5	255	63	91	145	2	24	30	40
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2					
Volume Total (vph)	132	260	63	91	147	54	40					
Volume Left (vph)	5	5	0	91	0	24	0					
Volume Right (vph)	59	0	63	0	2	0	40					
Hadj (s)	-0.23	0.04	-0.67	0.53	0.02	0.26	-0.67					
Departure Headway (s)	5.6	5.7	4.9	6.4	5.9	6.4	5.4					
Degree Utilization, x	0.21	0.41	0.09	0.16	0.24	0.10	0.06					
Capacity (veh/h)	597	610	690	531	575	521	604					
Control Delay (s)	10.1	11.3	7.2	9.5	9.6	8.8	7.6					
Approach Delay (s)	10.1	10.5		9.5		8.3						
Approach LOS	B	B		A		A						
Intersection Summary												
Delay			9.9									
HCM Level of Service			A									
Intersection Capacity Utilization			33.4%			ICU Level of Service				A		
Analysis Period (min)			15									

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	86	46	5	85	33	9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	96	51	6	94	37	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			147		227	121
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			147		227	121
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		95	99
cM capacity (veh/h)			1435		759	930
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	147	100	37	10		
Volume Left	0	6	37	0		
Volume Right	51	0	0	10		
cSH	1700	1435	759	930		
Volume to Capacity	0.09	0.00	0.05	0.01		
Queue Length 95th (ft)	0	0	4	1		
Control Delay (s)	0.0	0.4	10.0	8.9		
Lane LOS		A	A	A		
Approach Delay (s)	0.0	0.4	9.8			
Approach LOS			A			
Intersection Summary						
Average Delay			1.7			
Intersection Capacity Utilization			18.6%		ICU Level of Service	A
Analysis Period (min)			15			











040501 - Otay Crossings

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	56	29	26	189	82	10
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	64	33	30	217	94	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			98		358	81
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			98		358	81
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		85	99
cM capacity (veh/h)			1496		628	979
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	98	247	94	11		
Volume Left	0	30	94	0		
Volume Right	33	0	0	11		
cSH	1700	1496	628	979		
Volume to Capacity	0.06	0.02	0.15	0.01		
Queue Length 95th (ft)	0	2	13	1		
Control Delay (s)	0.0	1.1	11.7	8.7		
Lane LOS		A	B	A		
Approach Delay (s)	0.0	1.1	11.4			
Approach LOS			B			
Intersection Summary						
Average Delay			3.3			
Intersection Capacity Utilization			29.3%		ICU Level of Service	A
Analysis Period (min)			15			

040501 - Otay Crossings

























						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	31	37	4	79	23	11
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	40	47	5	101	29	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			87		175	63
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			87		175	63
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		96	99
cM capacity (veh/h)			1509		812	1001
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	87	106	29	14		
Volume Left	0	5	29	0		
Volume Right	47	0	0	14		
cSH	1700	1509	812	1001		
Volume to Capacity	0.05	0.00	0.04	0.01		
Queue Length 95th (ft)	0	0	3	1		
Control Delay (s)	0.0	0.4	9.6	8.6		
Lane LOS		A	A	A		
Approach Delay (s)	0.0	0.4	9.3			
Approach LOS			A			
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			17.4%		ICU Level of Service	A
Analysis Period (min)			15			

040501 - Otay Crossings

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	13	36	1	138	55	1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	15	43	1	164	65	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)				1314		
pX, platoon unblocked						
vC, conflicting volume			58		204	37
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			58		204	37
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		92	100
cM capacity (veh/h)			1546		784	1035
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	58	165	65	1		
Volume Left	0	1	65	0		
Volume Right	43	0	0	1		
cSH	1700	1546	784	1035		
Volume to Capacity	0.03	0.00	0.08	0.00		
Queue Length 95th (ft)	0	0	7	0		
Control Delay (s)	0.0	0.1	10.0	8.5		
Lane LOS		A	B	A		
Approach Delay (s)	0.0	0.1	10.0			
Approach LOS			A			
Intersection Summary						
Average Delay			2.3			
Intersection Capacity Utilization			18.1%		ICU Level of Service	A
Analysis Period (min)			15			

040501 - Otay Crossings

Ex+Otay Crossings - Units 1-2- AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Fr _t		0.925	0.850			0.850		0.939			0.963	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1637	1504	1770	1863	1583	1770	3323	0	1770	3408	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1637	1504	1770	1863	1583	1770	3323	0	1770	3408	0
Satd. Flow (RTOR)		12	22			1		146			28	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	3	11	27	1	2	1	59	220	173	1	69	22
Adj. Flow (vph)	4	12	34	1	2	1	74	275	188	1	86	28
Lane Group Flow (vph)	4	24	22	1	2	1	74	463	0	1	114	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Total Split (s)	9.5	21.0	21.0	9.0	20.5	20.5	12.3	21.0	0.0	49.0	57.7	0.0
Act Effct Green (s)	6.8	8.4	8.4	6.2	8.3	8.3	10.7	45.2		7.5	39.6	
Actuated g/C Ratio	0.10	0.13	0.13	0.09	0.13	0.13	0.16	0.77		0.11	0.68	
v/c Ratio	0.02	0.11	0.10	0.01	0.01	0.00	0.25	0.18		0.00	0.05	
Control Delay	18.0	11.8	9.2	19.0	15.0	14.0	13.0	4.2		18.0	8.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	18.0	11.8	9.2	19.0	15.0	14.0	13.0	4.2		18.0	8.4	
LOS	B	B	A	B	B	B	B	A		B	A	
Approach Delay		11.1			15.8			5.4			8.4	
Approach LOS		B			B			A			A	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 58.5

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.25

Intersection Signal Delay: 6.3









Intersection Capacity Utilization 28.3%
























Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service A

Splits and Phases: 23: Airway Rd & Enrico Fermi Dr

			
ø1	ø2	ø3	ø4
49 s	21 s	9 s	21 s
			
ø6	ø5	ø7	ø8
57.7 s	12.3 s	9.5 s	20.5 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frts		0.850	0.850					0.999			0.940	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1770	1504	1504	1863	1863	1863	1770	3536	0	1863	3327	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1770	1504	1504	1863	1863	1863	1770	3536	0	1863	3327	0
Satd. Flow (RTOR)		881	881					1			88	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	2	0	13	0	0	0	70	151	1	0	109	72
Adj. Flow (vph)	2	0	16	0	0	0	85	184	1	0	133	88
Lane Group Flow (vph)	2	8	8	0	0	0	85	185	0	0	221	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Total Split (s)	15.5	27.5	27.5	15.5	27.5	27.5	20.9	31.5	0.0	15.5	26.1	0.0
Act Effct Green (s)	6.2	6.1	6.1				11.3	87.1			71.4	
Actuated g/C Ratio	0.07	0.07	0.07				0.13	0.97			0.79	
v/c Ratio	0.02	0.01	0.01				0.38	0.05			0.08	
Control Delay	39.0	0.0	0.0				40.6	0.4			2.3	
Queue Delay	0.0	0.0	0.0				0.0	0.0			0.0	
Total Delay	39.0	0.0	0.0				40.6	0.4			2.3	
LOS	D	A	A				D	A			A	
Approach Delay		4.3						13.1			2.3	
Approach LOS		A						B			A	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.38

Intersection Signal Delay: 8.1









Intersection LOS: A

Intersection Capacity Utilization 22.5%

















ICU Level of Service A

Analysis Period (min) 15

















Splits and Phases: 23: Airway Rd & Enrico Fermi Rd

			
ø1	ø2	ø3	ø4
15.5 s	31.5 s	15.5 s	27.5 s
			
ø6	ø5	ø7	ø8
26.1 s	20.9 s	15.5 s	27.5 s

040501 - Otay Crossings

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	5	2	0	10	2	93	0	9	2	236	28	4
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	6	2	0	11	2	107	0	10	2	271	32	5
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	8	121	13	308								
Volume Left (vph)	6	11	0	271								
Volume Right (vph)	0	107	2	5								
Hadj (s)	0.18	-0.48	0.01	0.21								
Departure Headway (s)	5.0	4.2	4.5	4.4								
Degree Utilization, x	0.01	0.14	0.02	0.38								
Capacity (veh/h)	664	794	751	788								
Control Delay (s)	8.0	7.9	7.6	10.1								
Approach Delay (s)	8.0	7.9	7.6	10.1								
Approach LOS	A	A	A	B								
Intersection Summary												
Delay			9.4									
HCM Level of Service			A									
Intersection Capacity Utilization			34.4%		ICU Level of Service					A		
Analysis Period (min)			15									

040501 - Otay Crossings

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	5	10	0	9	3	121	0	61	1	178	146	10
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	6	12	0	11	4	149	0	75	1	220	180	12
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	19	164	77	412								
Volume Left (vph)	6	11	0	220								
Volume Right (vph)	0	149	1	12								
Hadj (s)	0.10	-0.50	0.12	0.17								
Departure Headway (s)	5.4	4.6	5.0	4.6								
Degree Utilization, x	0.03	0.21	0.11	0.53								
Capacity (veh/h)	587	708	679	754								
Control Delay (s)	8.6	8.8	8.6	12.7								
Approach Delay (s)	8.6	8.8	8.6	12.7								
Approach LOS	A	A	A	B								
Intersection Summary												
Delay			11.2									
HCM Level of Service			B									
Intersection Capacity Utilization			39.9%		ICU Level of Service					A		
Analysis Period (min)			15									

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↘↙	↑↑↑		↗↖
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	0.91	0.97	0.91	1.00	0.88
Frt	0.986					0.850
Flt Protected			0.950			
Satd. Flow (prot)	5014	0	3433	5085	0	2787
Flt Permitted			0.950			
Satd. Flow (perm)	5014	0	3433	5085	0	2787
Satd. Flow (RTOR)	19					940
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	468	46	219	702	0	280
Adj. Flow (vph)	514	51	241	771	0	308
Lane Group Flow (vph)	565	0	241	771	0	308
Turn Type			Prot			custom
Protected Phases	2		1	6		
Permitted Phases						8
Total Split (s)	33.0	0.0	25.0	58.0	0.0	32.0
Act Effect Green (s)	60.4		11.6	76.0		6.0
Actuated g/C Ratio	0.67		0.13	0.84		0.07
v/c Ratio	0.17		0.55	0.18		0.29
Control Delay	5.6		40.3	1.1		0.7
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	5.6		40.3	1.1		0.7
LOS	A		D	A		A
Approach Delay	5.6			10.5		
Approach LOS	A			B		

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 66 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.55

Intersection Signal Delay: 7.4

Intersection LOS: A

Intersection Capacity Utilization 26.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 28: Siempre Viva Rd & SR905 SB Off to Siempre Viva EB

↙ ø1	→ ø2	
25 s	33 s	
← ø6		↗ ø8
58 s		32 s

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↘↙	↑↑↑		↗↖
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	0.91	0.97	0.91	1.00	0.88
Fr _t	0.937					0.850
Flt Protected			0.950			
Satd. Flow (prot)	4765	0	3433	5085	0	2787
Flt Permitted			0.950			
Satd. Flow (perm)	4765	0	3433	5085	0	2787
Satd. Flow (RTOR)	214					1005
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	444	322	401	669	0	175
Adj. Flow (vph)	522	379	472	787	0	206
Lane Group Flow (vph)	901	0	472	787	0	206
Turn Type			Prot			custom
Protected Phases	2		1	6		
Permitted Phases						8
Total Split (s)	32.8	0.0	28.7	61.5	0.0	28.5
Act Effct Green (s)	47.3		24.7	76.0		6.0
Actuated g/C Ratio	0.53		0.27	0.84		0.07
v/c Ratio	0.35		0.50	0.18		0.18
Control Delay	9.6		25.4	1.3		0.4
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	9.6		25.4	1.3		0.4
LOS	A		C	A		A
Approach Delay	9.6			10.4		
Approach LOS	A			B		

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 29 (32%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.50

Intersection Signal Delay: 9.2

Intersection LOS: A







Intersection Capacity Utilization 33.9%







ICU Level of Service A



















Analysis Period (min) 15

Splits and Phases: 28: Siempre Viva Road & SR905 SB Off Ramp to Siempre Viva EB

→ ø2	↙ ø1	
32.8 s	28.7 s	
← ø6		↗ ø8
61.5 s		28.5 s

							
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		↑↑↑↑	↑↑↑↑			↑	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Volume (veh/h)	0	748	557	0	0	364	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	
Hourly flow rate (vph)	0	860	640	0	0	418	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type					None		
Median storage (veh)							
Upstream signal (ft)		281	733				
pX, platoon unblocked					0.98		
vC, conflicting volume	640				927	213	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	640				893	213	
tC, single (s)	4.1				6.8	6.9	
tC, 2 stage (s)							
tF (s)	2.2				3.5	3.3	
p0 queue free %	100				100	47	
cM capacity (veh/h)	940				276	792	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	287	287	287	213	213	213	418
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	418
cSH	1700	1700	1700	1700	1700	1700	792
Volume to Capacity	0.17	0.17	0.17	0.13	0.13	0.13	0.53
Queue Length 95th (ft)	0	0	0	0	0	0	79
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	14.5
Lane LOS							B
Approach Delay (s)	0.0			0.0			14.5
Approach LOS							B
Intersection Summary							
Average Delay			3.2				
Intersection Capacity Utilization			40.0%		ICU Level of Service		A
Analysis Period (min)			15				

							
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		↑↑↑	↑↑↑			↗	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Volume (veh/h)	0	619	694	0	0	376	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	
Hourly flow rate (vph)	0	666	746	0	0	404	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type					None		
Median storage (veh)							
Upstream signal (ft)		225	412				
pX, platoon unblocked	0.97				0.97	0.97	
vC, conflicting volume	746				968	249	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	666				895	150	
tC, single (s)	4.1				6.8	6.9	
tC, 2 stage (s)							
tF (s)	2.2				3.5	3.3	
p0 queue free %	100				100	52	
cM capacity (veh/h)	888				270	839	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	222	222	222	249	249	249	404
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	404
cSH	1700	1700	1700	1700	1700	1700	839
Volume to Capacity	0.13	0.13	0.13	0.15	0.15	0.15	0.48
Queue Length 95th (ft)	0	0	0	0	0	0	66
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	13.2
Lane LOS							B
Approach Delay (s)	0.0			0.0			13.2
Approach LOS							B
Intersection Summary							
Average Delay			2.9				
Intersection Capacity Utilization			43.4%		ICU Level of Service		A
Analysis Period (min)			15				

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	1.00	1.00	0.88	1.00	1.00	1.00
Fr					0.991	0.850			0.850			
Flt Protected	0.950							0.953				
Satd. Flow (prot)	3433	5085	0	0	4763	1362	0	1775	2787	0	0	0
Flt Permitted	0.950							0.953				
Satd. Flow (perm)	3433	5085	0	0	4763	1362	0	1775	2787	0	0	0
Satd. Flow (RTOR)					11	155			301			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	125	613	0	0	399	175	164	1	289	0	0	0
Adj. Flow (vph)	130	639	0	0	416	182	171	1	301	0	0	0
Lane Group Flow (vph)	130	639	0	0	443	155	0	172	301	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Total Split (s)	24.0	56.5	0.0	0.0	32.5	32.5	33.5	33.5	33.5	0.0	0.0	0.0
Act Effct Green (s)	9.0	68.1			55.1	55.1		13.9	13.9			
Actuated g/C Ratio	0.10	0.76			0.61	0.61		0.15	0.15			
v/c Ratio	0.38	0.17			0.15	0.17		0.63	0.44			
Control Delay	37.9	1.4			8.3	2.3		45.1	6.0			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	37.9	1.4			8.3	2.3		45.1	6.0			
LOS	D	A			A	A		D	A			
Approach Delay		7.6			6.7			20.2				
Approach LOS		A			A			C				

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 77 (86%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 10.6





Intersection LOS: B

























Intersection Capacity Utilization 40.0%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 30: Siempre Viva Rd & SR 905 NB On Ramp

	
ø2	ø8
56.5 s	33.5 s
	
ø6	ø5
32.5 s	24 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  				 			
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	1.00	1.00	0.88	1.00	1.00	1.00
Frts					0.983	0.850			0.850			
Flt Protected	0.950							0.954				
Satd. Flow (prot)	3433	5085	0	0	4724	1362	0	1777	2787	0	0	0
Flt Permitted	0.950							0.954				
Satd. Flow (perm)	3433	5085	0	0	4724	1362	0	1777	2787	0	0	0
Satd. Flow (RTOR)					26	311			226			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	297	352	0	0	640	373	49	2	210	0	0	0
Adj. Flow (vph)	319	378	0	0	688	401	53	2	226	0	0	0
Lane Group Flow (vph)	319	378	0	0	778	311	0	55	226	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Total Split (s)	26.1	61.5	0.0	0.0	35.4	35.4	28.5	28.5	28.5	0.0	0.0	0.0
Act Effct Green (s)	14.5	73.5			55.0	55.0		8.5	8.5			
Actuated g/C Ratio	0.16	0.82			0.61	0.61		0.09	0.09			
v/c Ratio	0.58	0.09			0.27	0.33		0.33	0.48			
Control Delay	32.3	0.9			8.8	2.2		42.7	9.1			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	32.3	0.9			8.8	2.2		42.7	9.1			
LOS	C	A			A	A		D	A			
Approach Delay		15.2			6.9			15.7				
Approach LOS		B			A			B				

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 66 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 10.9





Intersection LOS: B
























Intersection Capacity Utilization 43.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 30: Siempre Viva Road & SR905 NB On Ramp

 ø2	 ø8
61.5 s	28.5 s
 ø5	 ø6
26.1 s	35.4 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frts			0.850						0.850		0.932	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3539	0	1770	3539	1583	1770	3299	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5085	1583	1770	3539	0	1770	3539	1583	1770	3299	0
Satd. Flow (RTOR)			154						5		58	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	517	407	140	21	272	1	120	51	5	8	64	53
Adj. Flow (vph)	568	447	154	23	299	1	132	56	5	9	70	58
Lane Group Flow (vph)	568	447	154	23	300	0	132	56	5	9	128	0
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Total Split (s)	36.0	48.1	48.1	9.4	21.5	0.0	12.0	24.0	24.0	8.5	20.5	0.0
Act Effct Green (s)	27.7	40.1	40.1	5.4	11.7		8.1	18.4	18.4	4.6	7.7	
Actuated g/C Ratio	0.39	0.56	0.56	0.07	0.16		0.11	0.26	0.26	0.06	0.11	
v/c Ratio	0.83	0.16	0.16	0.18	0.52		0.66	0.06	0.01	0.09	0.32	
Control Delay	32.6	8.4	2.4	39.4	31.7		51.5	24.6	17.2	39.6	21.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	32.6	8.4	2.4	39.4	31.7		51.5	24.6	17.2	39.6	21.4	
LOS	C	A	A	D	C		D	C	B	D	C	
Approach Delay		19.3			32.2			42.8			22.6	
Approach LOS		B			C			D			C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 71.5

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 24.3









Intersection Capacity Utilization 59.5%
























Analysis Period (min) 15

Intersection LOS: C

ICU Level of Service B

Splits and Phases: 32: Siempre Viva Rd & Paseo De Las Americas

			
ø1	ø2	ø3	ø4
9.4 s	48.1 s	12 s	20.5 s
			
ø5	ø6	ø7	ø8
36 s	21.5 s	8.5 s	24 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frts			0.850		0.994				0.850		0.926	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3518	0	1770	3539	1583	1770	3277	0
Flt Permitted	0.950			0.950			0.459			0.666		
Satd. Flow (perm)	1770	5085	1583	1770	3518	0	855	3539	1583	1241	3277	0
Satd. Flow (RTOR)			67		3				8		89	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	630	129	59	30	337	14	269	120	7	6	80	78
Adj. Flow (vph)	716	147	67	34	383	16	306	136	8	7	91	89
Lane Group Flow (vph)	716	147	67	34	399	0	306	136	8	7	180	0
Turn Type	Prot		Perm	Prot			pm+pt		Perm	pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2				8		8	4		
Total Split (s)	57.0	67.3	67.3	10.6	20.9	0.0	21.6	31.0	31.0	11.1	20.5	0.0
Act Effct Green (s)	45.6	59.4	59.4	6.6	15.4		29.5	27.5	27.5	15.6	9.1	
Actuated g/C Ratio	0.44	0.58	0.58	0.06	0.15		0.29	0.27	0.27	0.14	0.09	
v/c Ratio	0.91	0.05	0.07	0.31	0.76		0.79	0.14	0.02	0.03	0.49	
Control Delay	44.6	10.9	3.2	59.8	53.7		49.5	32.9	19.1	33.0	30.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	44.6	10.9	3.2	59.8	53.7		49.5	32.9	19.1	33.0	30.0	
LOS	D	B	A	E	D		D	C	B	C	C	
Approach Delay		36.3			54.2			44.0			30.1	
Approach LOS		D			D			D			C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 102.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 41.3









Intersection Capacity Utilization 77.6%

Analysis Period (min) 15




















Intersection LOS: D

ICU Level of Service D




















Splits and Phases: 32: Siempre Viva Road & Paseo De Las Americas

			
10.6 s	67.3 s	21.6 s	20.5 s
			
57 s	20.9 s	11.1 s	31 s





















040501 - Otay Crossings

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	54	254	62	20	220	1	21	17	22	2	5	27
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	64	302	74	24	262	1	25	20	26	2	6	32
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)		1276										
pX, platoon unblocked												
vC, conflicting volume	263			376			682	779	188	626	815	132
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	263			376			682	779	188	626	815	132
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			98			92	93	97	99	98	96
cM capacity (veh/h)	1298			1179			302	303	822	321	289	894
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2			
Volume Total	64	202	175	24	175	88	71	8	32			
Volume Left	64	0	0	24	0	0	25	2	0			
Volume Right	0	0	74	0	0	1	26	0	32			
cSH	1298	1700	1700	1179	1700	1700	394	297	894			
Volume to Capacity	0.05	0.12	0.10	0.02	0.10	0.05	0.18	0.03	0.04			
Queue Length 95th (ft)	4	0	0	2	0	0	16	2	3			
Control Delay (s)	7.9	0.0	0.0	8.1	0.0	0.0	16.1	17.5	9.2			
Lane LOS	A			A			C	C	A			
Approach Delay (s)	1.2			0.7			16.1	10.9				
Approach LOS							C	B				
Intersection Summary												
Average Delay			2.7									
Intersection Capacity Utilization			32.4%				ICU Level of Service			A		
Analysis Period (min)			15									

040501 - Otay Crossings

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	39	73	20	17	246	5	51	15	0	1	19	52
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	43	80	22	19	270	5	56	16	0	1	21	57
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)		1290			1303							
pX, platoon unblocked												
vC, conflicting volume	276			102			417	490	51	445	498	138
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	276			102			417	490	51	445	498	138
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			99			88	96	100	100	95	94
cM capacity (veh/h)	1284			1488			453	456	1006	467	451	885
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2			
Volume Total	43	53	49	19	180	96	73	22	57			
Volume Left	43	0	0	19	0	0	56	1	0			
Volume Right	0	0	22	0	0	5	0	0	57			
cSH	1284	1700	1700	1488	1700	1700	454	451	885			
Volume to Capacity	0.03	0.03	0.03	0.01	0.11	0.06	0.16	0.05	0.06			
Queue Length 95th (ft)	3	0	0	1	0	0	14	4	5			
Control Delay (s)	7.9	0.0	0.0	7.5	0.0	0.0	14.4	13.4	9.3			
Lane LOS	A			A			B	B	A			
Approach Delay (s)	2.3			0.5			14.4	10.5				
Approach LOS							B	B				
Intersection Summary												
Average Delay			4.0									
Intersection Capacity Utilization			30.6%				ICU Level of Service		A			
Analysis Period (min)			15									

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frnt		0.917			0.993			0.996			0.912	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	1708	0	1863	3514	0	1770	3525	0	1863	3228	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	1708	0	1863	3514	0	1770	3525	0	1863	3228	0
Satd. Flow (RTOR)		5			5			3			38	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	242	3	4	0	80	4	9	93	2	0	21	29
Adj. Flow (vph)	314	4	5	0	104	5	12	121	3	0	27	38
Lane Group Flow (vph)	314	9	0	0	109	0	12	124	0	0	65	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Total Split (s)	22.0	33.0	0.0	15.0	26.0	0.0	15.0	27.0	0.0	15.0	27.0	0.0
Act Effct Green (s)	9.5	15.9			7.2		6.5	14.6			13.1	
Actuated g/C Ratio	0.25	0.43			0.18		0.15	0.41			0.37	
v/c Ratio	0.36	0.01			0.17		0.05	0.09			0.05	
Control Delay	13.0	4.4			15.0		19.4	11.1			9.8	
Queue Delay	0.0	0.0			0.0		0.0	0.0			0.0	
Total Delay	13.0	4.4			15.0		19.4	11.1			9.8	
LOS	B	A			B		B	B			A	
Approach Delay		12.8			15.0			11.8			9.8	
Approach LOS		B			B			B			A	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 35.4

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.36

Intersection Signal Delay: 12.6









Intersection Capacity Utilization 27.4%

Analysis Period (min) 15





















Intersection LOS: B

ICU Level of Service A

Splits and Phases: 34: Siempre Viva Rd & Enrico Fermi Dr

			
ø1	ø2	ø3	ø4
15 s	33 s	15 s	27 s
			
ø6	ø5	ø7	ø8
26 s	22 s	15 s	27 s

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Fr't		0.872			0.953			0.998			0.855	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1624	0	1770	3373	0	1770	3532	0	1770	3026	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1624	0	1770	3373	0	1770	3532	0	1770	3026	0
Satd. Flow (RTOR)		23			11			2			809	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	41	4	22	11	23	11	146	149	2	3	4	103
Adj. Flow (vph)	43	4	23	11	24	11	152	155	2	3	4	107
Lane Group Flow (vph)	43	27	0	11	35	0	152	157	0	3	111	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Total Split (s)	13.5	26.8	0.0	13.5	26.8	0.0	24.2	36.2	0.0	13.5	25.5	0.0
Act Effct Green (s)	7.1	9.2		6.8	6.8		11.6	50.0		6.5	33.2	
Actuated g/C Ratio	0.10	0.14		0.10	0.10		0.19	0.81		0.09	0.54	
v/c Ratio	0.12	0.11		0.06	0.10		0.46	0.05		0.02	0.06	
Control Delay	25.9	13.6		28.8	20.9		23.5	5.3		29.0	0.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	25.9	13.6		28.8	20.9		23.5	5.3		29.0	0.1	
LOS	C	B		C	C		C	A		C	A	
Approach Delay		21.2			22.8			14.3			0.8	
Approach LOS		C			C			B			A	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 61.7

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.46

Intersection Signal Delay: 13.0









Intersection Capacity Utilization 29.3%












Analysis Period (min) 15

Intersection LOS: B

ICU Level of Service A

Splits and Phases: 34: Siempre Viva Road & Enrico Fermi Rd

			
ø2	ø1	ø4	ø3
26.8 s	13.5 s	25.5 s	24.2 s
			
ø5	ø6	ø8	ø7
13.5 s	26.8 s	36.2 s	13.5 s

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.996			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1855	0	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	1855	0	1770	1863
Satd. Flow (RTOR)		5	3			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	6	5	634	19	1	166
Adj. Flow (vph)	7	5	689	21	1	180
Lane Group Flow (vph)	7	5	710	0	1	180
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Total Split (s)	25.5	25.5	51.0	0.0	13.5	64.5
Act Effct Green (s)	6.5	6.5	110.3		6.2	112.7
Actuated g/C Ratio	0.05	0.05	0.95		0.05	0.97
v/c Ratio	0.08	0.06	0.40		0.01	0.10
Control Delay	27.7	18.0	2.3		27.0	0.5
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	27.7	18.0	2.3		27.0	0.5
LOS	C	B	A		C	A
Approach Delay	23.6		2.3			0.7
Approach LOS	C		A			A

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 116.1

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.40

Intersection Signal Delay: 2.2





Intersection Capacity Utilization 44.5%

Analysis Period (min) 15












Intersection LOS: A

ICU Level of Service A

Splits and Phases: 67: Paseo De La Fuente & Alta Rd.

		
ø2	ø1	
51 s	13.5 s	
		
ø6	ø8	
64.5 s	25.5 s	

040501 - Otay Crossings

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.996			
Flt Protected	0.950					
Satd. Flow (prot)	1770	1583	1855	0	1863	1863
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1583	1855	0	1863	1863
Satd. Flow (RTOR)		2	2			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	221	2	98	3	0	506
Adj. Flow (vph)	273	2	121	4	0	625
Lane Group Flow (vph)	273	2	125	0	0	625
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Total Split (s)	37.3	37.3	34.2	0.0	18.5	52.7
Act Effect Green (s)	12.7	12.7	24.8			24.8
Actuated g/C Ratio	0.28	0.28	0.54			0.54
v/c Ratio	0.56	0.00	0.12			0.62
Control Delay	18.3	10.5	6.4			11.4
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	18.3	10.5	6.4			11.4
LOS	B	B	A			B
Approach Delay	18.2		6.4			11.4
Approach LOS	B		A			B

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 45.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 12.6





Intersection LOS: B

Intersection Capacity Utilization 45.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 67: Paseo De La Fuente & Alta Rd

			
ø1	ø2		
18.5 s	34.2 s		
			
ø6		ø8	
52.7 s		37.3 s	

Existing + Project Units 1-2 Intersection ILV Analysis

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

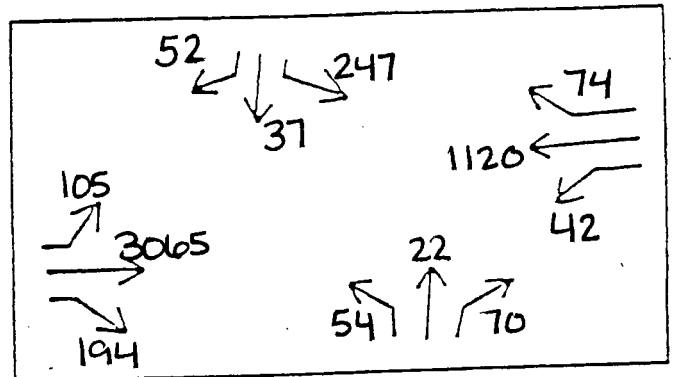
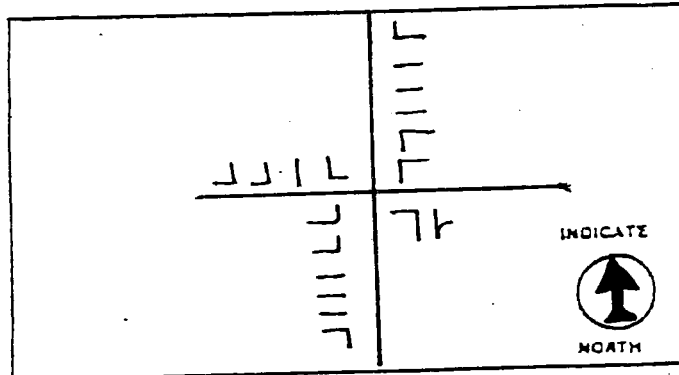
INTERSECTION Otay Mesa/Heritage
Existing + Units 1-2

DIST. CO. RTE. P.M. 11/SD/905

BY JB DATE 4-6-10

TIME AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
00	21
52	21
53	

Phase 2	
49	373
374	373
1021	
1022	
1022	
140	

Phase 3	
247	25
54	54

Phase 4	
37	192
16	
19	
1	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
53

Phase 2
1,022

Phase 3
247

Phase 4
92

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,414

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Heritage

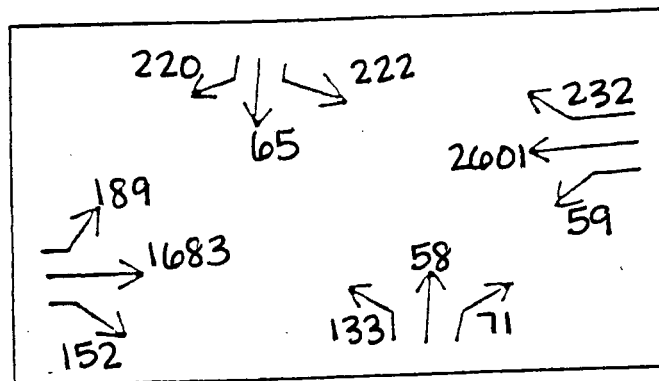
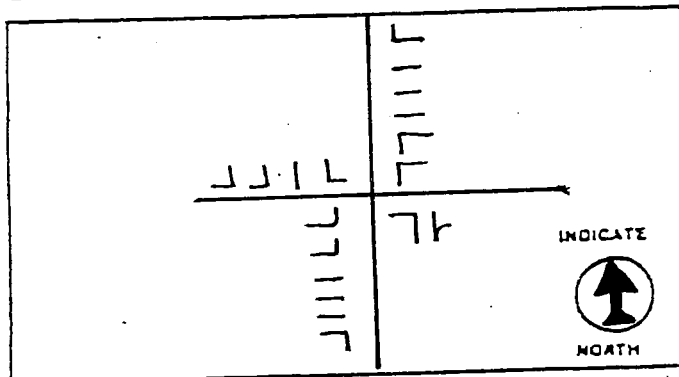
DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-2

BY JB DATE 4-6-10

TIME _____ AM (PM)

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
<div style="display: flex; justify-content: space-between;"> 66 00 33 30 29 </div>	
<div style="display: flex; justify-content: space-between;"> 94 95 33 </div>	

Phase 2	
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Phase 3	
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Phase 4	
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CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
95

Phase 2
867

Phase 3
222

Phase 4
129

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,313

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Cactus

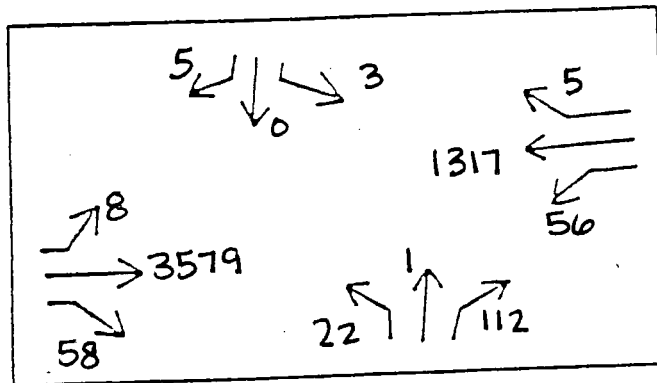
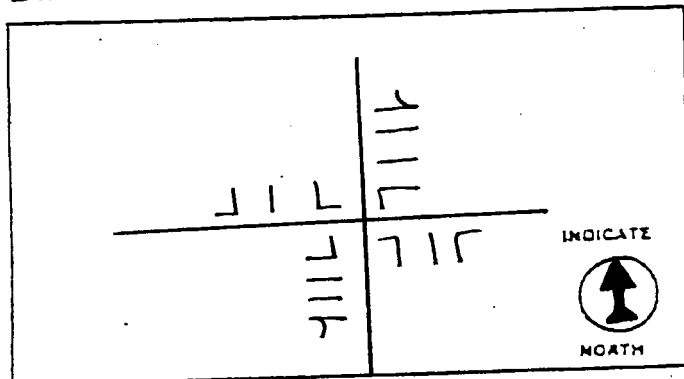
DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-2

BY UB DATE 4-6-10

TIME (AM) PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
0	56
8	00

Phase 2	
440	441
1212	1213
1212	1212

Phase 3	
3	12

Phase 4	
50	11
101	101

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
56

Phase 2
1,213

Phase 3
22

Phase 4
104

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,395

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Cactus

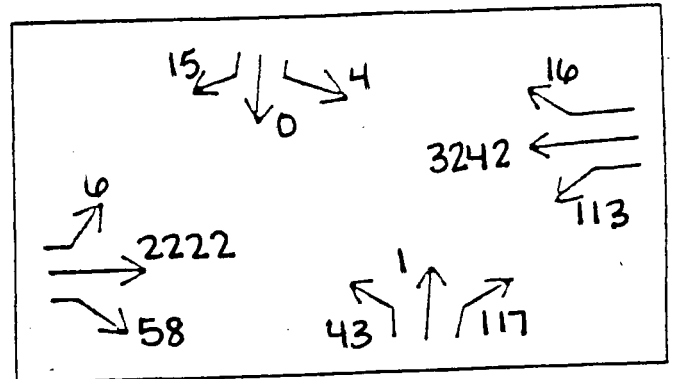
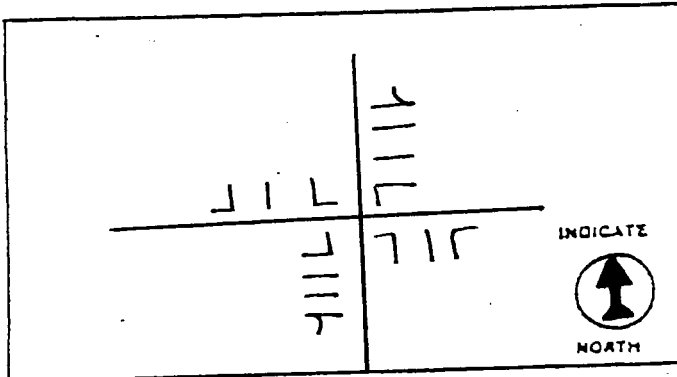
DIST. CO. RTE. P.M. 11/SD/905

BY LB DATE 4-6-10

TIME _____ AM (PM)

Existing + Units 1-2

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
5 └┐	113 └┐
6 └┐	8 └┐

Phase 2	
1086 └┐	1086 └┐
760 └┐	760 └┐
760 └┐	760 └┐

Phase 3	
43 └┐	43 └┐

Phase 4	
50 └┐	11 └┐

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
113

Phase 2
1,086

Phase 3
43

Phase 4
17

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,259

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

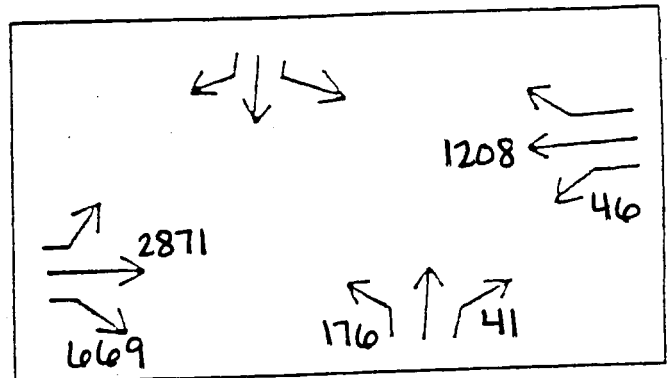
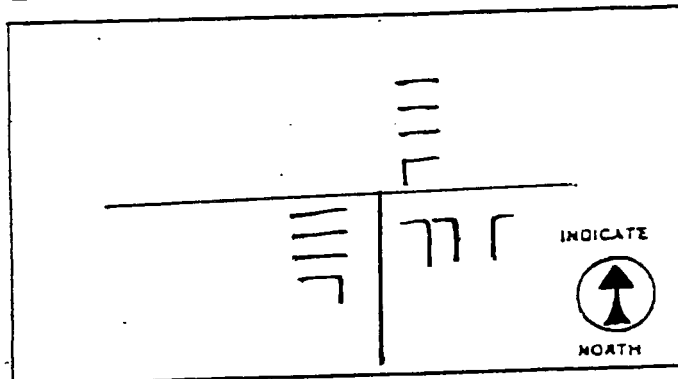
INTERSECTION Otay Mesa Rd / Britannia Blvd DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-2

BY VJB DATE 4-6-10

TIME (AM) PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
— 46	
— 46	
— 46	
└ 46	

Phase 2	
— 356	
— 357	
— 357	
957 —	
957 —	
957 —	
581 └	

Phase 3	
88 └	└ 77 └
	88 88 17

Phase 4	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
46

Phase 2
957

Phase 3
88

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,091

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

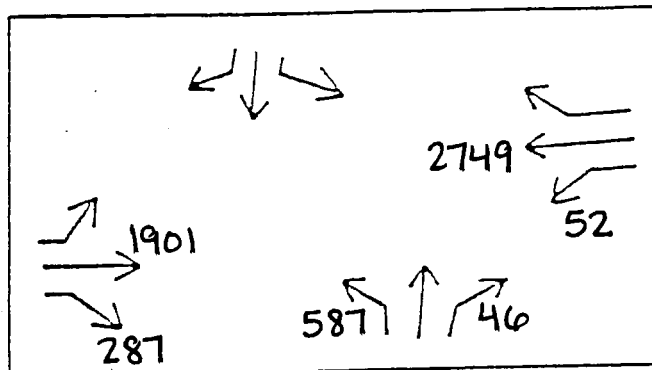
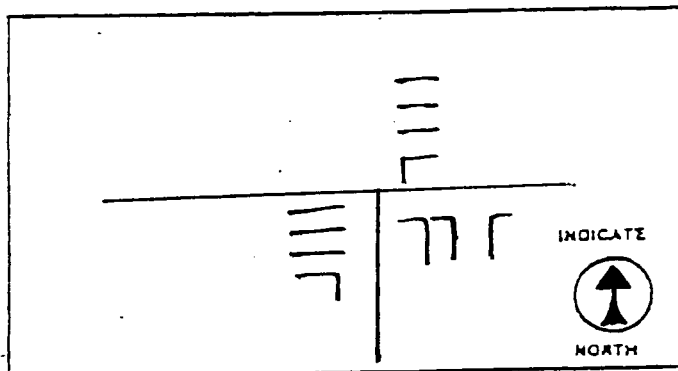
INTERSECTION Otay Mesa Rd / Britannia Blvd DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-2

BY VJB DATE 4-6-10

TIME AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
— 52	
— 52	
— 52	
└ 52	

Phase 2	
— 864	
— 865	
— 864	
633 —	
634 —	
634 —	
187 └	

Phase 3	
100 └	
└ 77	
└ 293	
└ 294	
└ 46	

Phase 4	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
52

Phase 2
865

Phase 3
294

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,211

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa Rd/La Media Rd

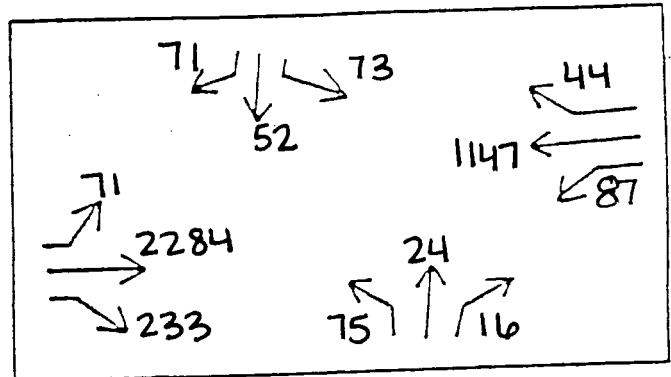
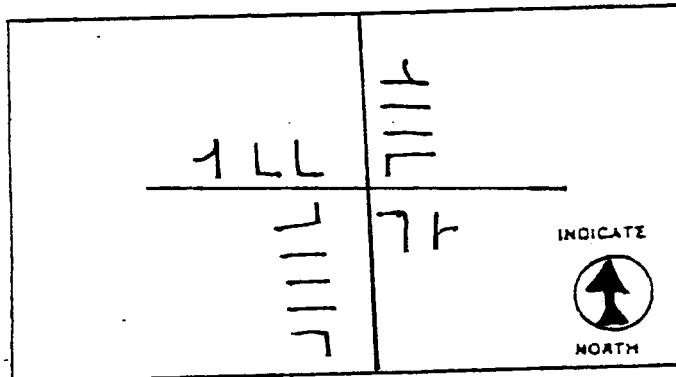
DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-2

BY JB DATE 4-6-10

TIME (AM) PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
	87
71	

Phase 2	
	397
	397
	397
761	
762	
761	
158	

Phase 3	
36	37
75	75

Phase 4	
123	
	440

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
87

Phase 2
762

Phase 3
75

Phase 4
123

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,047

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

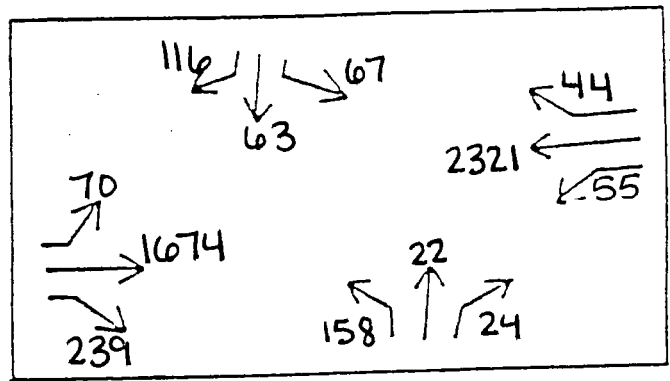
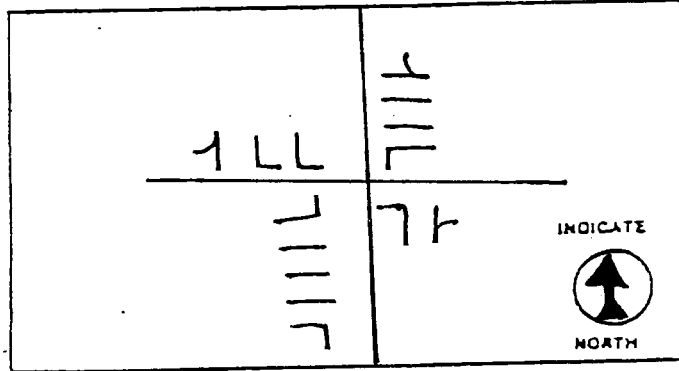
INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa Rd/La Media Rd DIST. CO. RTE. P.M. 11/SD/905
 Existing + Units 1-2 BY JB DATE 4-6-10
 TIME _____ AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
	55
70	

Phase 2	
	788
	789
	788
558	
558	
558	
139	

Phase 3	
34	33
LL	
100	
	158

Phase 4	
179	
	46

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
70

Phase 2
789

Phase 3
158

Phase 4
179

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,196

- Is . . .
- ☒ < 1200 ILV/hr.
 - ☐ > 1200 but < 1500 ILV/hr.
 - ☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Piper Ranch

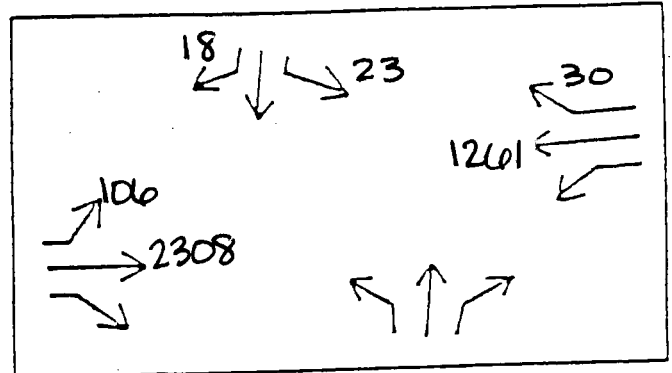
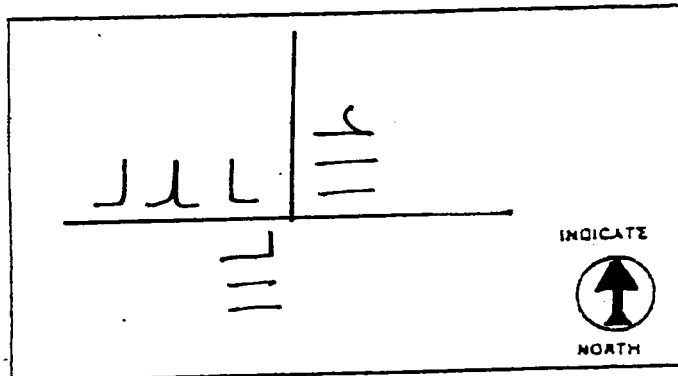
DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-2

BY JB DATE 4-6-10

TIME AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
<div> <div> <div></div> <div></div> </div> <div> <div></div> <div></div> </div> </div>	<div> <div> <div></div> <div></div> </div> <div> <div></div> <div></div> </div> </div>	<div> <div> <div></div> <div></div> </div> <div> <div></div> <div></div> </div> </div>	
<div> <div>106</div> <div>106</div> <div>106</div> </div>	<div> <div>430</div> <div>431</div> <div>430</div> </div> <div> <div>1,048</div> <div>1,048</div> </div>	<div> <div>106</div> <div>106</div> <div>106</div> </div>	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
106	1,048	14	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,168

REMARKS:

- Is . . .
- ☒ < 1200 ILV/hr.
 - ☐ > 1200 but < 1500 ILV/hr.
 - ☐ > 1500 ILV/hr. (CAPACITY)

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Piper Ranch

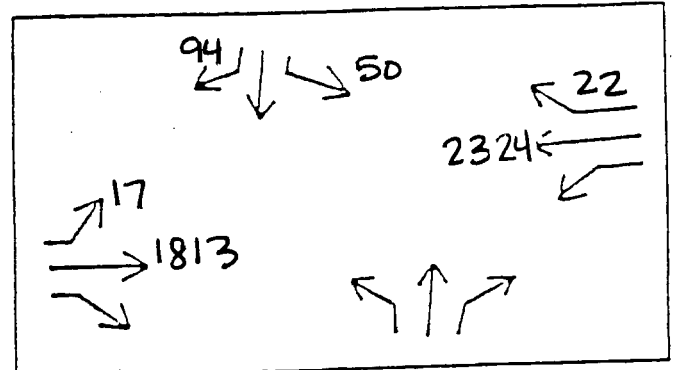
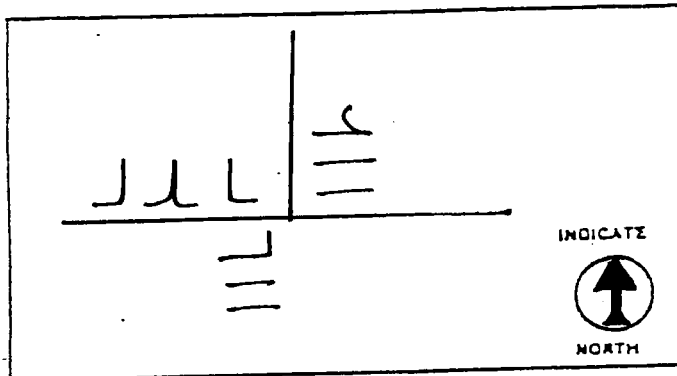
DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-2

BY JB DATE 4-6-10

TIME AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
<div style="display: flex; justify-content: space-between;"> <div> <div>17</div> <div>17</div> <div>17</div> </div> <div> <div>782</div> <div>782</div> <div>782</div> </div> </div>	<div style="display: flex; justify-content: space-between;"> <div> <div>889</div> <div>890</div> </div> <div> <div>782</div> <div>782</div> <div>782</div> </div> </div>	<div style="display: flex; justify-content: space-between;"> <div> <div>5</div> <div>5</div> <div>5</div> </div> <div> <div>17</div> <div>17</div> <div>17</div> </div> </div>	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
17	890	48	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
955

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / SR-125 SB Ramp

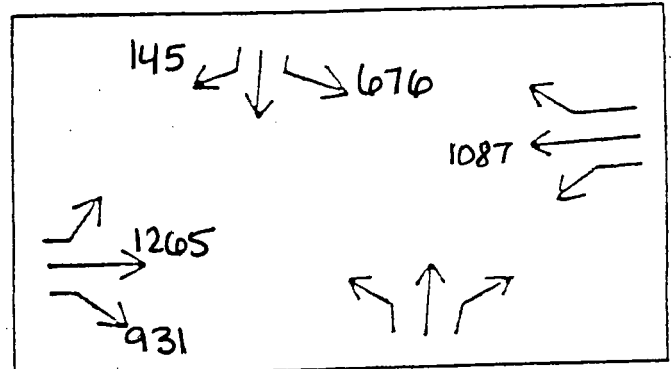
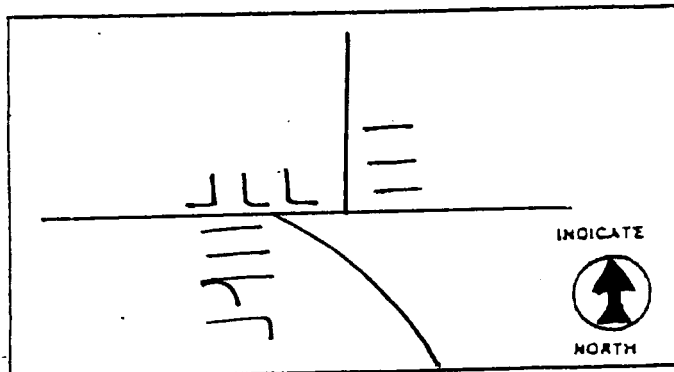
DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-2

BY JB DATE 4-6-10

TIME (AM) PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
	362
	363
	362
549	
549	
549	
549	

Phase 2	
145	338
338	
338	
300	

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
549

Phase 2
338

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
887

Is . . . ☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

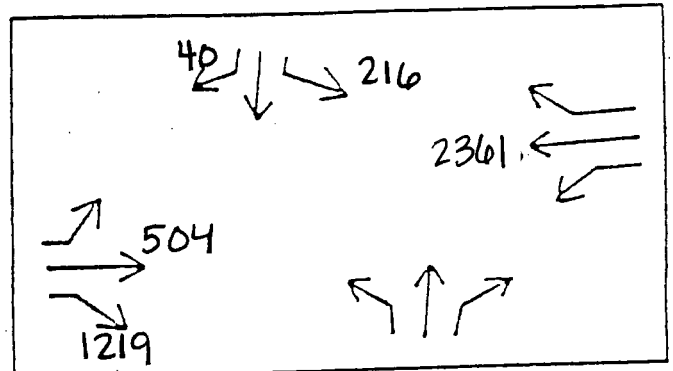
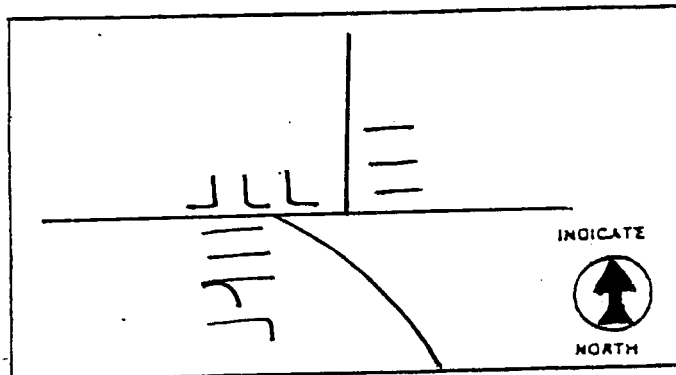
INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / SR-125 SB Ramp DIST. CO. RTE. P.M. 11/SD/905
 Existing + Units 1-2 BY DLB DATE 4-6-10
 TIME AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
<div> <div>787</div> <div>787</div> <div>787</div> </div> <div> <div>252</div> <div>252</div> <div>560</div> <div>559</div> </div>	<div> <div>800</div> <div>800</div> <div>800</div> </div> <div> <div>100</div> </div>		

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
787	108		

TOTAL OPERATING LEVEL (ILV/hr):

Σ
895

- Is . . .
- ☒ < 1200 ILV/hr.
 - ☐ > 1200 but < 1500 ILV/hr.
 - ☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

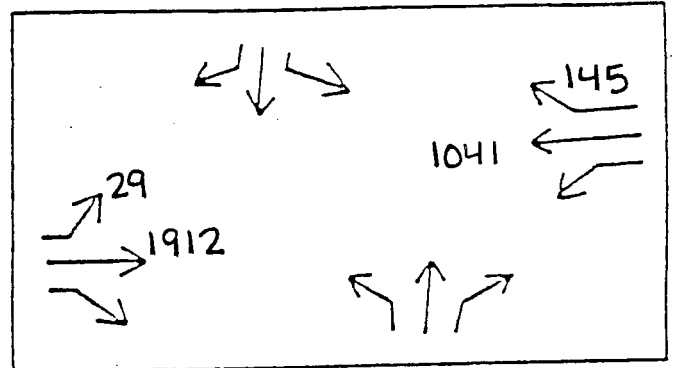
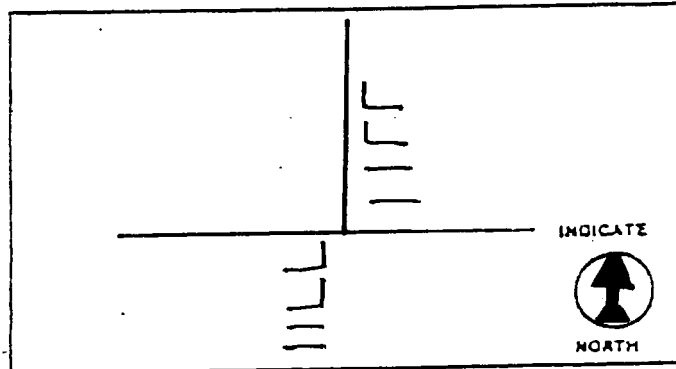
CAPACITY ANALYSIS

INTERSECTION Otay Mesa/SR-125 NB Ramp DIST. CO. RTE. P.M. 11/50/905

Existing + Units 1-2 BY JB DATE 4-6-10

TIME AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
14	└
15	└
15	└
15	└

Phase 2	
	└ 73
	└ 72
	└ 521
	└ 520
941	=
941	=

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
15

Phase 2
941

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
956

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

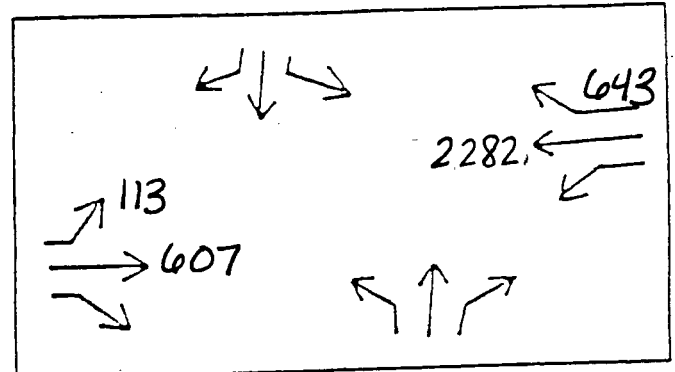
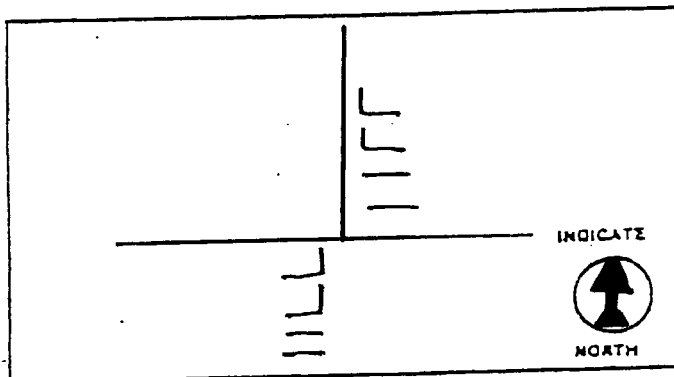
Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/SR-125 NB Ramp DIST. CO. RTE. P.M. 11/50/905
 BY JLB DATE 4-6-10
 TIME AM PM

Existing + Units 1-2

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
<div> <div></div> <div></div> </div>	<div> <div> <div>L 321</div> <div>L 322</div> <div>1141</div> <div>1141</div> </div> <div> <div>246 =</div> <div>247 =</div> </div> </div>		
<div> <div>56</div> <div>57</div> <div>57</div> <div>57</div> </div>			

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
57	1,141		

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,198

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection CAPACITY ANALYSIS

INTERSECTION Otay Mesa / SR-905 NB
Connector

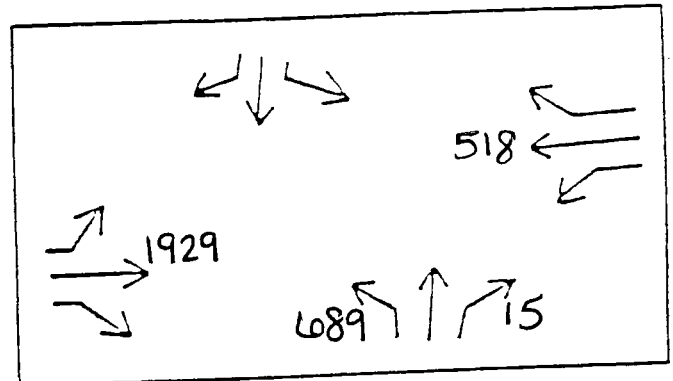
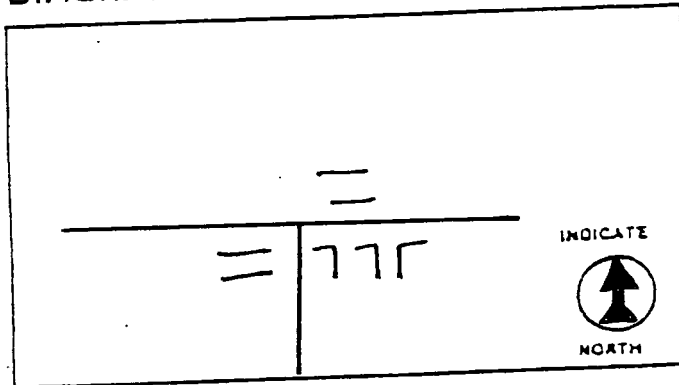
DIST. CO. RTE. P.M. 11/5D/905

BY JB DATE 4-6-10

TIME (AM) PM

Existing + Units 1-2

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
— 259	
— 259	
964 —	
965 —	

Phase 2	
	15
	345
	344

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
965

Phase 2
345

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,310

REMARKS:

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

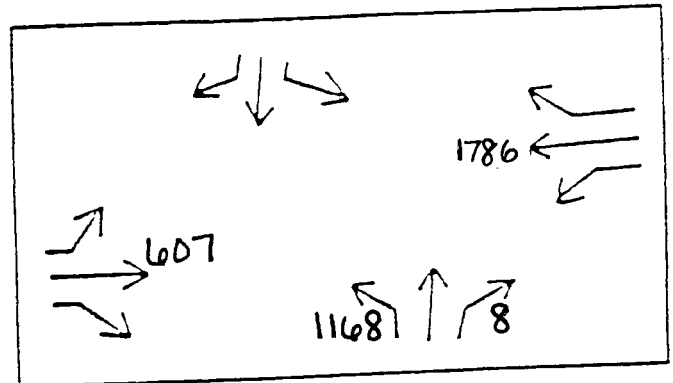
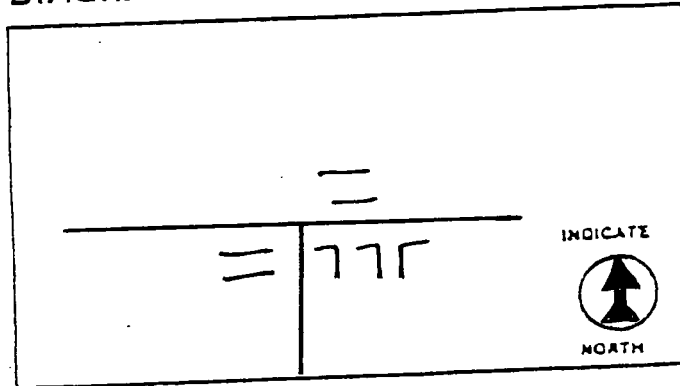
INTERSECTION

Signalized Intersection CAPACITY ANALYSIS

INTERSECTION Otay Mesa / SR-905 NB
Connector
 Existing + Units 1-2

DIST. CO. RTE. P.M. 11/SD/905
 BY JB DATE 4-6-10
 TIME _____ AM ☒ PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
— 893	
— 893	
303 —	
304 —	

Phase 2	
1584	1584
1584	8

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
893

Phase 2
584

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,477

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SR-905 SB
Ramp

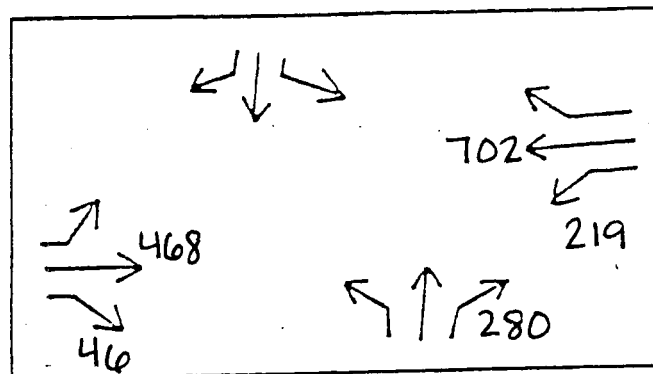
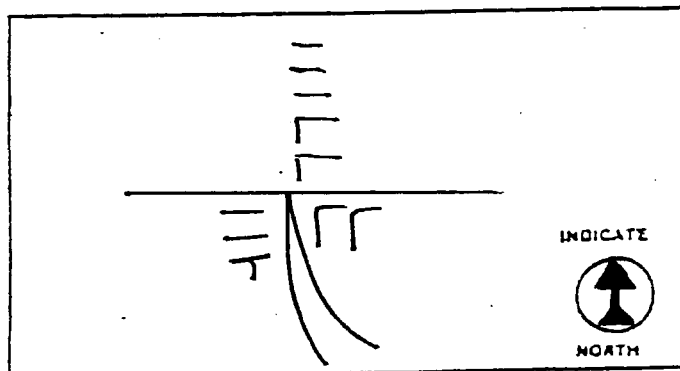
DIST. CO. RTE. P.M. 11 / SD / 905

Existing + Units 1-2

BY YB DATE 4-6-10

TIME (AM) PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1
1150
1150
1150
1109
1110
1150
1150

Phase 2
1194
1194
1194
1171
1172
1171

Phase 3
1190
1190
1190
1190
1190

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
1110

Phase 2
1172

Phase 3
1190

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
372

Is ... ☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

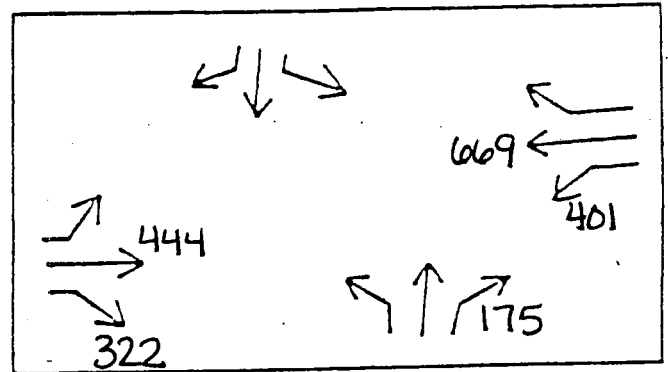
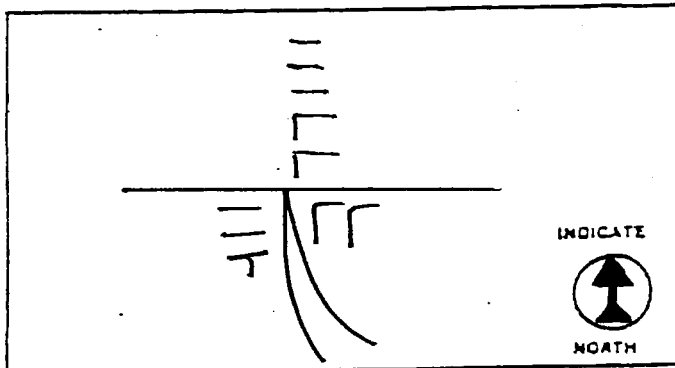
Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SR-905 SB
Existing + Units 1-2 Ramp

DIST. CO. RTE. P.M. 11 / SD / 905
 BY JB DATE 4-6-10
 TIME AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1
100
100
100
200
201

Phase 2
85
85
85
222
222
322

Phase 3
38
38
38
37
38

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
201

Phase 2
322

Phase 3
38

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
561

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

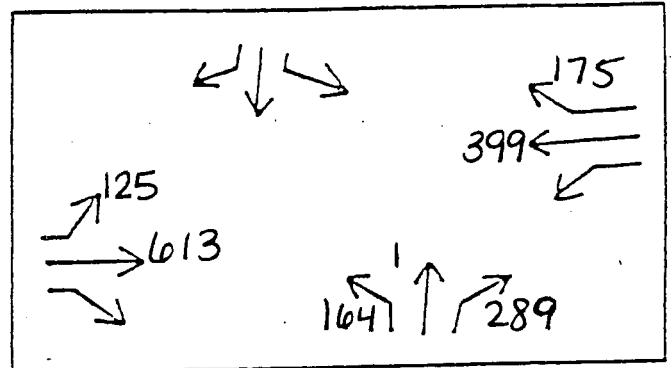
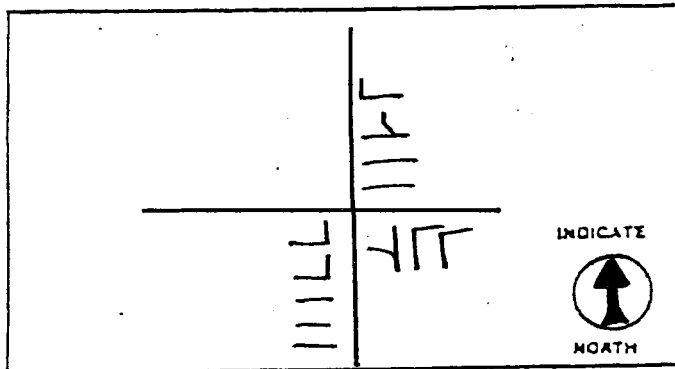
Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SR-905 NB
Existing + Units 1-2 ^{Ramp}

DIST. CO. RTE. P.M. 11/SD/905
 BY OLB DATE 4-6-10
 TIME AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
62	1
63	1
63	1
63	1
63	1

Phase 2	
141	1
142	1
141	1
144	1
144	1
143	1
143	1

Phase 3	
165	1
144	1
145	1

Phase 4	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
63

Phase 2
144

Phase 3
165

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
372

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SE-905 NB
Ramp

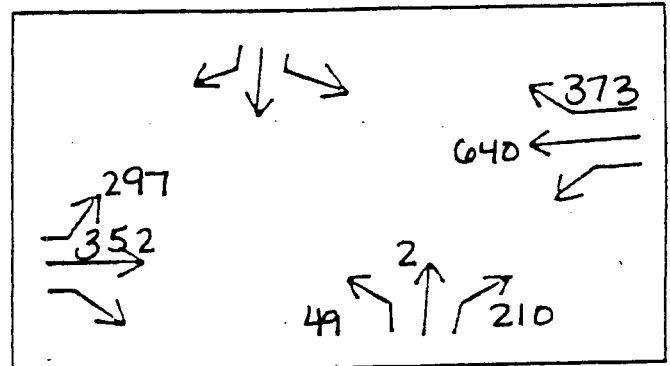
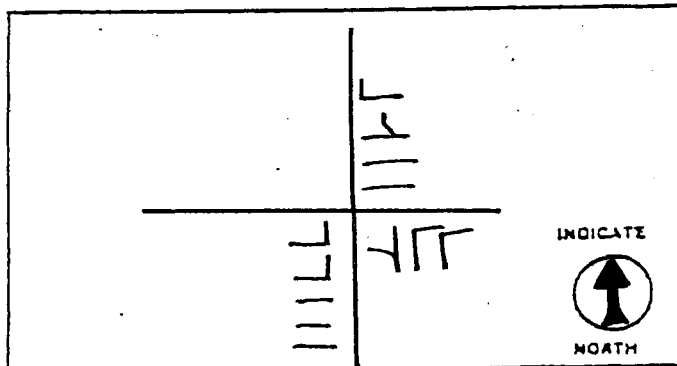
DIST. CO. RTE. P.M. 11/SD/905

BY OLB DATE 4-6-10

TIME _____ AM (PM)

Existing + Units 1-2

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
148	└
149	└
50	═
50	═
49	┘

Phase 2	
253	└
254	└
253	═
253	═
68	—
68	—
67	—

Phase 3	
151	└
105	└
105	└

Phase 4	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
149

Phase 2
254

Phase 3
105

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
508

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

APPENDIX G

- Existing + Project Units 1-3 Arterial Synchro Analysis Worksheets
 - Existing + Project Units 1-3 Synchro Analysis Worksheets
 - Existing + Project Units 1-3 Intersection ILV Analysis

Existing + Project Units 1-3 Arterial Synchro Analysis Worksheets

Arterial Level of Service: EB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Heritage Road	II	45	28.4	75.7	104.1	0.27	9.4	F
Cactus Rd	II	45	44.7	36.1	80.8	0.51	22.6	C
Brittania Blvd	II	45	45.5	59.3	104.8	0.52	17.8	D
La Media	II	45	83.0	9.2	92.2	1.04	40.5	A
Piper Ranch Rd	II	45	44.3	17.4	61.7	0.50	29.4	B
	II	45	25.6	14.6	40.2	0.25	22.0	C
SR125 NB Ramp	II	45	14.8	2.4	17.2	0.14	28.3	B
SR905	II	45	15.0	107.3	122.3	0.14	4.1	F
Sanyo Ave	II	45	27.8	9.5	37.3	0.27	25.8	C
Enrico Fermi Dr	II	45	62.8	395.5	458.3	0.78	6.2	F
Total	II		391.9	727.0	1118.9	4.41	14.2	E

Arterial Level of Service: WB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Enrico Fermi Dr	II	45	43.2	3.7	46.9	0.49	37.7	A
Sanyo Ave	II	45	62.8	2.7	65.5	0.78	43.1	A
SR905	II	45	27.8	9.8	37.6	0.27	25.6	C
SR125 NB Ramp	II	45	15.0	15.0	30.0	0.14	16.5	E
SR125 SB	II	45	14.8	9.7	24.5	0.14	19.9	D
Piper Ranch Rd	II	45	25.6	4.8	30.4	0.25	29.1	B
La Media	II	45	44.3	11.9	56.2	0.50	32.3	B
Brittania Blvd	II	45	83.0	3.4	86.4	1.04	43.3	A
Cactus Rd	II	45	45.5	2.2	47.7	0.52	39.0	A
Heritage Road	II	45	44.7	15.9	60.6	0.51	30.2	B
Total	II		406.7	79.1	485.8	4.63	34.3	B

Arterial Level of Service: EB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Heritage Road	II	45	28.4	19.8	48.2	0.27	20.4	D
Cactus Rd	II	45	44.7	14.7	59.4	0.51	30.8	B
Brittania Blvd	II	45	45.5	10.4	55.9	0.52	33.3	B
La Media	II	45	83.0	27.0	110.0	1.04	34.0	B
Piper Ranch Rd	II	45	43.8	5.1	48.9	0.50	36.7	A
	II	45	26.2	2.1	28.3	0.25	32.0	B
SR125 NB Ramp	II	45	14.7	0.2	14.9	0.14	32.7	B
SR905	II	45	15.0	12.3	27.3	0.14	18.2	D
Sanyo Ave	II	45	27.8	1.6	29.4	0.27	32.7	B
Enrico Fermi Rd	II	45	62.8	16.1	78.9	0.78	35.8	A
Total	II		391.9	109.3	501.2	4.41	31.7	B

Arterial Level of Service: WB Otay Mesa Road
























Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Enrico Fermi Rd	II	45	43.2	195.3	238.5	0.49	7.4	F
Sanyo Ave	II	45	62.8	312.5	375.3	0.78	7.5	F
SR905	II	45	27.8	185.2	213.0	0.27	4.5	F
SR125 NB Ramp	II	45	15.0	9.4	24.4	0.14	20.3	D
SR125 SB	II	45	14.7	2.0	16.7	0.14	29.2	B
Piper Ranch Rd	II	45	26.2	3.1	29.3	0.25	30.9	B
La Media	II	45	43.8	36.1	79.9	0.50	22.4	C
Brittania Blvd	II	45	83.0	23.2	106.2	1.04	35.2	A
Cactus Rd	II	45	45.5	8.5	54.0	0.52	34.5	B
Heritage Road	II	45	44.7	45.0	89.7	0.51	20.4	D
Total	II		406.7	820.3	1227.0	4.63	13.6	E

Existing + Project Units 1-3 Synchro Analysis Worksheets

040501 - Otay Crossings

1: Otay Mesa Road & Heritage Road

Ex+Otay Crossings - Units 1-3- AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frts			0.850			0.850		0.885				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4803	1583	3433	4803	1583	1770	1649	0	1770	1863	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4803	1583	3433	4803	1583	1770	1649	0	1770	1863	2787
Satd. Flow (RTOR)			163			84		41				58
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	105	3260	194	43	1187	75	54	22	73	250	37	52
Adj. Flow (vph)	118	3663	218	48	1334	84	61	25	82	281	42	58
Lane Group Flow (vph)	118	3663	218	48	1334	84	61	107	0	281	42	58
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot			Prot		pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases			2			6						4
Total Split (s)	15.2	122.0	22.5	8.5	115.3	27.0	22.5	22.5	0.0	27.0	27.0	15.2
Act Effct Green (s)	11.3	125.3	155.4	4.5	116.8	143.8	26.1	12.9		23.0	9.8	21.1
Actuated g/C Ratio	0.06	0.70	0.86	0.02	0.65	0.80	0.14	0.07		0.13	0.05	0.12
v/c Ratio	0.55	1.10	0.16	0.56	0.43	0.07	0.24	0.69		1.24	0.41	0.15
Control Delay	91.6	75.7	0.9	106.6	15.9	0.9	70.2	70.9		200.6	93.5	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	91.6	75.7	0.9	106.6	15.9	0.9	70.2	70.9		200.6	93.5	10.2
LOS	F	E	A	F	B	A	E	E		F	F	B
Approach Delay		72.1			18.0			70.6			159.9	
Approach LOS		E			B			E			F	

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.24

Intersection Signal Delay: 64.5










Intersection LOS: E

























Intersection Capacity Utilization 90.2%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 1: Otay Mesa Road & Heritage Road

								
ø2	ø3	ø4	ø5	ø6	ø7	ø8	ø9	ø10
122 s	22.5 s	27 s	15.2 s	115.3 s	27 s	22.5 s		

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Fr _t			0.850			0.850		0.917				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4803	1583	3433	4803	1583	1770	1708	0	1770	1863	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4803	1583	3433	4803	1583	1770	1708	0	1770	1863	2787
Satd. Flow (RTOR)			157			204		28				87
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	189	1772	152	61	2786	234	133	58	73	224	65	220
Adj. Flow (vph)	195	1827	157	63	2872	241	137	60	75	231	67	227
Lane Group Flow (vph)	195	1827	157	63	2872	241	137	135	0	231	67	227
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot			Prot		pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases			2			6						4
Total Split (s)	16.0	117.4	27.4	11.1	112.5	31.0	27.4	20.5	0.0	31.0	24.1	16.0
Act Effct Green (s)	12.0	113.6	142.0	7.0	108.6	134.3	28.4	14.8		25.7	12.2	24.2
Actuated g/C Ratio	0.07	0.64	0.80	0.04	0.61	0.76	0.16	0.08		0.15	0.07	0.14
v/c Ratio	0.84	0.59	0.12	0.46	0.98	0.19	0.48	0.80		0.90	0.52	0.50
Control Delay	109.8	19.8	0.5	95.5	45.0	0.9	74.6	94.5		108.7	94.3	31.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	109.8	19.8	0.5	95.5	45.0	0.9	74.6	94.5		108.7	94.3	31.2
LOS	F	B	A	F	D	A	E	F		F	F	C
Approach Delay		26.5			42.6			84.5			73.3	
Approach LOS		C			D			F			E	

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 177.2

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 41.4



















Intersection Capacity Utilization 92.5%

Analysis Period (min) 15























Intersection LOS: D

ICU Level of Service F

Splits and Phases: 1: Otay Mesa Road & Heritage Road

								
11.1 s	117.4 s		24.1 s	27.4 s		20.5 s	31 s	
								
16 s	112.5 s		20.5 s	31 s				

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998							0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4797	0	1770	4804	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4797	0	1770	4804	0	1770	1863	1583	1770	1863	1583
Satd. Flow (RTOR)		3			1				28			86
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	8	3782	58	57	1388	5	22	1	115	3	0	5
Adj. Flow (vph)	9	4156	64	63	1525	5	24	1	126	3	0	5
Lane Group Flow (vph)	9	4220	0	63	1530	0	24	1	126	3	0	5
Turn Type	Prot			Prot			Prot		pm+ov	Prot		pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases									8			4
Total Split (s)	8.5	134.5	0.0	15.0	141.0	0.0	10.0	22.0	15.0	8.5	20.5	8.5
Act Effct Green (s)	7.0	150.3		13.9	164.9		7.9	6.2	20.0	4.5		7.0
Actuated g/C Ratio	0.04	0.84		0.08	0.92		0.04	0.03	0.11	0.02		0.04
v/c Ratio	0.13	1.05		0.46	0.35		0.31	0.02	0.63	0.07		0.03
Control Delay	88.8	36.1		89.8	2.2		92.4	84.0	71.4	89.0		0.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Total Delay	88.8	36.1		89.8	2.2		92.4	84.0	71.4	89.0		0.4
LOS	F	D		F	A		F	F	E	F		A
Approach Delay		36.2			5.7			74.8				
Approach LOS		D			A			E				

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 26 (14%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.05

Intersection Signal Delay: 29.1









Intersection Capacity Utilization 94.8%

Analysis Period (min) 15























Intersection LOS: C

ICU Level of Service F

Splits and Phases: 2: Otay Mesa Road & Cactus Rd

			
ø1	ø2	ø4	ø8
15 s	134.5 s	10 s	20.5 s
			
ø6			
8.5 s	141 s	8.5 s	22 s

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Fr't		0.996			0.999				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4790	0	1770	4799	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4790	0	1770	4799	0	1770	1863	1583	1770	1863	1583
Satd. Flow (RTOR)		3			1				97			54
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	6	2315	58	115	3436	16	43	1	119	4	0	15
Adj. Flow (vph)	6	2362	59	117	3506	16	44	1	121	4	0	15
Lane Group Flow (vph)	6	2421	0	117	3522	0	44	1	121	4	0	15
Turn Type	Prot			Prot			Prot		pm+ov	Prot		pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases									8			4
Total Split (s)	14.5	104.9	0.0	28.5	118.9	0.0	20.1	32.1	28.5	14.5	26.5	14.5
Act Effct Green (s)	6.7	131.8		27.2	157.1		11.1	8.7	37.1	6.5		6.7
Actuated g/C Ratio	0.04	0.73		0.15	0.87		0.06	0.05	0.21	0.04		0.04
v/c Ratio	0.09	0.69		0.44	0.84		0.40	0.01	0.30	0.06		0.14
Control Delay	86.2	14.7		68.5	8.5		90.7	82.0	16.4	85.5		2.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Total Delay	86.2	14.7		68.5	8.5		90.7	82.0	16.4	85.5		2.5
LOS	F	B		E	A		F	F	B	F		A
Approach Delay		14.9			10.5			36.5				
Approach LOS		B			B			D				

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 139 (77%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 12.9









Intersection LOS: B

Intersection Capacity Utilization 89.1%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 2: Otay Mesa Road & Cactus Rd

			
ø2	ø1	ø3	ø4
104.9 s	28.5 s	20.1 s	26.5 s
			
ø5	ø6	ø7	ø8
14.5 s	118.9 s	14.5 s	32.1 s

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↓	↑↑↑	↓	↑
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frts		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4803	1583	1770	4803	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4803	1583	1770	4803	3433	1583
Satd. Flow (RTOR)		420				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	3081	669	48	1281	176	48
Adj. Flow (vph)	3625	787	56	1507	207	56
Lane Group Flow (vph)	3625	787	56	1507	207	56
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Total Split (s)	70.6	36.3	13.1	83.7	36.3	13.1
Act Effct Green (s)	84.5	106.3	8.5	94.9	17.1	28.8
Actuated g/C Ratio	0.70	0.89	0.07	0.79	0.14	0.24
v/c Ratio	1.07	0.54	0.45	0.40	0.42	0.15
Control Delay	59.3	2.3	54.1	3.4	48.4	33.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.3	2.3	54.1	3.4	48.4	33.6
LOS	E	A	D	A	D	C
Approach Delay	49.1			5.2	45.2	
Approach LOS	D			A	D	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.07

Intersection Signal Delay: 38.0

Intersection LOS: D

Intersection Capacity Utilization 71.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Otay Mesa Road & Britannia Blvd

→ ø2	↖ ø1	
70.6 s	13.1 s	
← ø6	↗ ø8	
83.7 s	36.3 s	

040501 - Otay Crossings

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↓	↑↑↑	↓	↑
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4803	1583	1770	4803	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4803	1583	1770	4803	3433	1583
Satd. Flow (RTOR)		309				3
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1997	287	59	2948	587	49
Adj. Flow (vph)	2147	309	63	3170	631	53
Lane Group Flow (vph)	2147	309	63	3170	631	53
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Total Split (s)	95.2	60.6	24.2	119.4	60.6	24.2
Act Effct Green (s)	116.8	159.9	12.1	132.9	39.1	55.2
Actuated g/C Ratio	0.65	0.89	0.07	0.74	0.22	0.31
v/c Ratio	0.69	0.21	0.53	0.89	0.85	0.11
Control Delay	10.4	0.8	96.3	23.2	78.8	40.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.4	0.8	96.3	23.2	78.8	40.2
LOS	B	A	F	C	E	D
Approach Delay	9.2			24.7	75.8	
Approach LOS	A			C	E	

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 170 (94%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 24.2

Intersection LOS: C

Intersection Capacity Utilization 80.4%

ICU Level of Service D























Analysis Period (min) 15

Splits and Phases: 3: Otay Mesa Road & Britannia Blvd

↙ ø1	→ ø2	
24.2 s	95.2 s	
← ø6		↗ ø8
119.4 s		60.6 s

040501 - Otay Crossings

4: Otay Mesa Road & La Media
Ex+Otay Crossings - Units 1-3- AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Frts			0.850		0.995			0.939			0.913	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4803	1583	1770	4788	0	1770	1690	0	3433	1659	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4803	1583	1770	4788	0	1770	1690	0	3433	1659	0
Satd. Flow (RTOR)			230		7			17			48	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	71	2504	233	87	1223	45	75	24	16	76	52	71
Adj. Flow (vph)	75	2636	245	92	1287	47	79	25	17	80	55	75
Lane Group Flow (vph)	75	2636	245	92	1334	0	79	42	0	80	130	0
Turn Type	Prot		pm+ov	Prot			Prot			Prot		
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Total Split (s)	11.8	66.8	13.5	17.0	72.0	0.0	13.5	25.0	0.0	11.2	22.7	0.0
Act Effct Green (s)	7.7	71.6	84.6	11.6	77.7		9.0	10.1		12.7	11.8	
Actuated g/C Ratio	0.06	0.60	0.70	0.10	0.65		0.08	0.08		0.11	0.10	
v/c Ratio	0.66	0.92	0.21	0.54	0.43		0.59	0.27		0.22	0.63	
Control Delay	40.7	9.2	0.4	62.9	11.9		72.1	39.9		49.2	45.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	40.7	9.2	0.4	62.9	11.9		72.1	39.9		49.2	45.3	
LOS	D	A	A	E	B		E	D		D	D	
Approach Delay		9.2			15.2			60.9			46.8	
Approach LOS		A			B			E			D	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 87 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 14.0









Intersection LOS: B

Intersection Capacity Utilization 77.8%




























ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 4: Otay Mesa Road & La Media

			
ø1	ø2	ø3	ø4
17 s	66.8 s	13.5 s	22.7 s
			
ø6	ø5	ø8	ø7
72 s	11.8 s	25 s	11.2 s

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  					 	 	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Frts			0.850		0.997			0.922			0.903	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4803	1583	1770	4793	0	1770	1670	0	3433	1648	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4803	1583	1770	4793	0	1770	1670	0	3433	1648	0
Satd. Flow (RTOR)			249		3			25			54	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	70	1775	239	55	2530	46	158	22	24	69	63	116
Adj. Flow (vph)	73	1849	249	57	2635	48	165	23	25	72	66	121
Lane Group Flow (vph)	73	1849	249	57	2683	0	165	48	0	72	187	0
Turn Type	Prot		pm+ov	Prot			Prot			Prot		
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Total Split (s)	15.0	71.0	25.9	22.0	78.0	0.0	25.9	30.1	0.0	16.9	21.1	0.0
Act Effct Green (s)	9.9	77.5	99.4	15.4	83.1		17.9	12.1		23.1	15.2	
Actuated g/C Ratio	0.07	0.55	0.71	0.11	0.59		0.13	0.09		0.16	0.11	
v/c Ratio	0.58	0.70	0.21	0.29	0.94		0.73	0.29		0.13	0.82	
Control Delay	81.2	27.0	1.4	59.7	36.1		76.8	39.8		47.7	70.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	81.2	27.0	1.4	59.7	36.1		76.8	39.8		47.7	70.1	
LOS	F	C	A	E	D		E	D		D	E	
Approach Delay		25.9			36.6			68.5			63.9	
Approach LOS		C			D			E			E	

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 34.8









Intersection Capacity Utilization 86.3%

Analysis Period (min) 15












Intersection LOS: C

ICU Level of Service E

Splits and Phases: 4: Otay Mesa Road & La Media

 ø2	 ø1	 ø4	 ø3
71 s	22 s	21.1 s	25.9 s
 ø6	 ø5	 ø8	 ø7
78 s	15 s	30.1 s	16.9 s

040501 - Otay Crossings

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.91	0.91	0.97	0.91
Frt			0.997			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	5070	0	3433	1441
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	3539	5070	0	3433	1441
Satd. Flow (RTOR)			5			20
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	106	2531	1338	31	26	18
Adj. Flow (vph)	119	2844	1503	35	29	20
Lane Group Flow (vph)	119	2844	1538	0	29	20
Turn Type	Prot				custom	
Protected Phases	5	2	6			
Permitted Phases					4	4
Total Split (s)	22.0	64.0	42.0	0.0	26.0	26.0
Act Effct Green (s)	15.8	75.2	57.6		6.8	6.8
Actuated g/C Ratio	0.18	0.84	0.64		0.08	0.08
v/c Ratio	0.38	0.96	0.47		0.11	0.16
Control Delay	35.5	17.4	4.8		39.4	19.6
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	35.5	17.4	4.8		39.4	19.6
LOS	D	B	A		D	B
Approach Delay		18.1	4.8		31.3	
Approach LOS		B	A		C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 9 (10%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 13.7





Intersection LOS: B

Intersection Capacity Utilization 80.0%
















ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 5: Otay Mesa Road & Piper Ranch Rd

	ø2		ø4
64 s		26 s	
	ø6		ø5
42 s		22 s	

040501 - Otay Crossings

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	  		 	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.91	0.91	0.97	0.91
Frst			0.999		0.929	0.850
Flt Protected	0.950				0.974	
Satd. Flow (prot)	1770	3539	5080	0	3270	1441
Flt Permitted	0.950				0.974	
Satd. Flow (perm)	1770	3539	5080	0	3270	1441
Satd. Flow (RTOR)			2		51	51
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	17	1915	2535	24	52	94
Adj. Flow (vph)	18	2082	2755	26	57	102
Lane Group Flow (vph)	18	2082	2781	0	108	51
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Total Split (s)	13.5	64.5	51.0	0.0	25.5	25.5
Act Effct Green (s)	6.9	74.5	69.7		7.5	7.5
Actuated g/C Ratio	0.08	0.83	0.77		0.08	0.08
v/c Ratio	0.13	0.71	0.71		0.34	0.31
Control Delay	40.4	5.1	3.1		24.8	16.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	40.4	5.1	3.1		24.8	16.4
LOS	D	A	A		C	B
Approach Delay		5.4	3.1		22.1	
Approach LOS		A	A		C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 4.6





Intersection LOS: A

Intersection Capacity Utilization 62.9%























ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 5: Otay Mesa Road & Piper Ranch Rd

 Ø2	 Ø4
64.5 s	25.5 s
 Ø5	 Ø6
13.5 s	51 s

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  					 		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	0.86	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Fr't		0.994	0.850									0.850
Flt Protected										0.950		
Satd. Flow (prot)	0	4777	1362	0	5085	0	0	0	0	3433	0	1583
Flt Permitted										0.950		
Satd. Flow (perm)	0	4777	1362	0	5085	0	0	0	0	3433	0	1583
Satd. Flow (RTOR)		10	708									30
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	1491	931	0	1165	0	0	0	0	740	0	145
Adj. Flow (vph)	0	1734	1083	0	1355	0	0	0	0	860	0	169
Lane Group Flow (vph)	0	1811	1006	0	1355	0	0	0	0	860	0	169
Turn Type			Free							Prot		custom
Protected Phases		2			6					4		
Permitted Phases			Free									4
Total Split (s)	0.0	49.8	0.0	0.0	49.8	0.0	0.0	0.0	0.0	40.2	0.0	40.2
Act Effct Green (s)		53.1	90.0		53.1					28.9		28.9
Actuated g/C Ratio		0.59	1.00		0.59					0.32		0.32
v/c Ratio		0.64	0.74		0.45					0.78		0.32
Control Delay		14.6	2.3		9.7					32.5		19.2
Queue Delay		0.0	0.0		0.0					0.0		0.0
Total Delay		14.6	2.3		9.7					32.5		19.2
LOS		B	A		A					C		B
Approach Delay		10.2			9.7							
Approach LOS		B			A							

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 2 (2%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 14.0




Intersection LOS: B

Intersection Capacity Utilization 64.2%













ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 6: Otay Mesa Road & SR125 SB

 Ø2	 Ø4
49.8 s	40.2 s
 Ø6	
49.8 s	

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑					↑↑		↑
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	0.86	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frts		0.925	0.850									0.850
Flt Protected										0.950		
Satd. Flow (prot)	0	4445	1362	0	5085	0	0	0	0	3433	0	1583
Flt Permitted										0.950		
Satd. Flow (perm)	0	4445	1362	0	5085	0	0	0	0	3433	0	1583
Satd. Flow (RTOR)		612	663									3
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	607	1219	0	2577	0	0	0	0	246	0	40
Adj. Flow (vph)	0	660	1325	0	2801	0	0	0	0	267	0	43
Lane Group Flow (vph)	0	1322	663	0	2801	0	0	0	0	267	0	43
Turn Type			Free							Prot		custom
Protected Phases		2			6					4		
Permitted Phases			Free									4
Total Split (s)	0.0	64.5	0.0	0.0	64.5	0.0	0.0	0.0	0.0	25.5	0.0	25.5
Act Effct Green (s)		69.6	90.0		69.6					12.4		12.4
Actuated g/C Ratio		0.77	1.00		0.77					0.14		0.14
v/c Ratio		0.37	0.49		0.71					0.56		0.19
Control Delay		2.1	0.9		2.0					40.7		33.6
Queue Delay		0.0	0.0		0.2					0.0		0.0
Total Delay		2.1	0.9		2.2					40.7		33.6
LOS		A	A		A					D		C
Approach Delay		1.7			2.2							
Approach LOS		A			A							

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 56 (62%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 4.3




Intersection LOS: A















Intersection Capacity Utilization 79.1%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 6: Otay Mesa Road & SR125 SB

 ø2	 ø4
64.5 s	25.5 s
 ø6	
64.5 s	

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	 	 	 	 		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				191		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	29	2202	1119	166	0	0
Adj. Flow (vph)	33	2531	1286	191	0	0
Lane Group Flow (vph)	33	2531	1286	191	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Total Split (s)	18.0	90.0	72.0	72.0	0.0	0.0
Act Effct Green (s)	21.8	90.0	65.8	65.8		
Actuated g/C Ratio	0.24	1.00	0.73	0.73		
v/c Ratio	0.04	0.72	0.50	0.09		
Control Delay	18.0	2.4	15.0	4.9		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	18.0	2.4	15.0	4.9		
LOS	B	A	B	A		
Approach Delay		2.6	13.7			
Approach LOS		A	B			

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 62 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 6.6

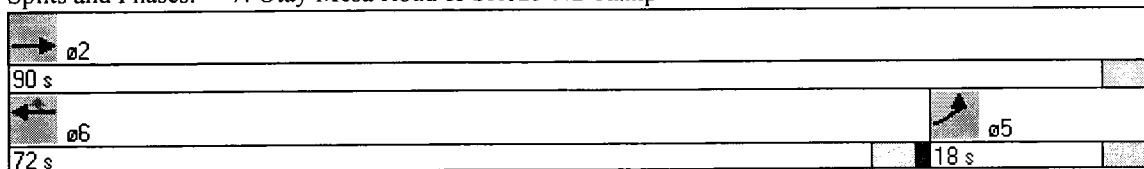
Intersection LOS: A

Intersection Capacity Utilization 64.2%















ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp



040501 - Otay Crossings

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	 	 	 	 		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				633		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	113	740	2498	705	0	0
Adj. Flow (vph)	124	813	2745	775	0	0
Lane Group Flow (vph)	124	813	2745	775	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Total Split (s)	17.0	90.0	73.0	73.0	0.0	0.0
Act Effct Green (s)	9.0	90.0	73.0	73.0		
Actuated g/C Ratio	0.10	1.00	0.81	0.81		
v/c Ratio	0.36	0.23	0.96	0.33		
Control Delay	45.3	0.2	9.4	0.2		
Queue Delay	0.0	0.0	13.7	0.0		
Total Delay	45.3	0.2	23.1	0.2		
LOS	D	A	C	A		
Approach Delay		6.1	18.0			
Approach LOS		A	B			

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 33 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 15.5




Intersection LOS: B

Intersection Capacity Utilization 79.1%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

	ø2		
90 s			
	ø5		ø6
17 s		73 s	

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frnt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	3433	1583
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	2219	0	0	619	689	15
Adj. Flow (vph)	2580	0	0	720	801	17
Lane Group Flow (vph)	2580	0	0	720	801	17
Turn Type						Perm
Protected Phases	2			6	8	
Permitted Phases						8
Total Split (s)	44.5	0.0	0.0	44.5	45.5	45.5
Act Effct Green (s)	55.3			55.3	26.7	26.7
Actuated g/C Ratio	0.61			0.61	0.30	0.30
v/c Ratio	1.19			0.33	0.79	0.04
Control Delay	107.3			9.8	29.8	13.7
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	107.3			9.8	29.8	13.7
LOS	F			A	C	B
Approach Delay	107.3			9.8	29.5	
Approach LOS	F			A	C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 58 (64%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.19

Intersection Signal Delay: 74.8

Intersection LOS: E

Intersection Capacity Utilization 87.7%







ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 8: Otay Mesa Road & SR905

→ ø2	
44.5 s	
← ø6	↖ ø8
44.5 s	45.5 s

040501 - Otay Crossings

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	↑
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frft						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	3433	1583
Satd. Flow (RTOR)						9
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	740	0	0	2072	1168	8
Adj. Flow (vph)	813	0	0	2277	1284	9
Lane Group Flow (vph)	813	0	0	2277	1284	9
Turn Type						Perm
Protected Phases	2			6	8	
Permitted Phases						8
Total Split (s)	39.0	0.0	0.0	39.0	51.0	51.0
Act Effct Green (s)	42.9			42.9	39.1	39.1
Actuated g/C Ratio	0.48			0.48	0.43	0.43
v/c Ratio	0.48			1.35	0.86	0.01
Control Delay	12.3			185.2	29.9	6.1
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	12.3			185.2	29.9	6.1
LOS	B			F	C	A
Approach Delay	12.3			185.2	29.8	
Approach LOS	B			F	C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 56 (62%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.35

Intersection Signal Delay: 107.3




Intersection LOS: F

Intersection Capacity Utilization 97.3%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 8: Otay Mesa Road & SR905

	ø2		
39 s			
	ø6		
39 s			
			ø8
		51 s	

040501 - Otay Crossings

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑	↖↗	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.986				0.965	
Flt Protected			0.950		0.963	
Satd. Flow (prot)	3490	0	1770	1863	3358	0
Flt Permitted			0.950		0.963	
Satd. Flow (perm)	3490	0	1770	1863	3358	0
Satd. Flow (RTOR)	16				12	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1925	200	24	606	32	10
Adj. Flow (vph)	2406	250	30	758	40	12
Lane Group Flow (vph)	2656	0	30	758	52	0
Turn Type			Prot			
Protected Phases	2		1	6	3	
Permitted Phases						
Total Split (s)	45.2	0.0	21.5	66.7	23.3	0.0
Act Effct Green (s)	75.5		7.4	80.7	7.0	
Actuated g/C Ratio	0.84		0.08	0.90	0.08	
v/c Ratio	0.91		0.21	0.45	0.19	
Control Delay	9.5		41.4	2.7	33.1	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	9.5		41.4	2.7	33.1	
LOS	A		D	A	C	
Approach Delay	9.5			4.1	33.1	
Approach LOS	A			A	C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 8.6

Intersection LOS: A

Intersection Capacity Utilization 69.6%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

↙ ø1	→ ø2	↖ ø3
21.5 s	45.2 s	23.3 s
← ø6		
66.7 s		

040501 - Otay Crossings

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑	↖↗	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.989				0.996	
Flt Protected			0.950		0.954	
Satd. Flow (prot)	3500	0	1770	1863	3434	0
Flt Permitted			0.950		0.954	
Satd. Flow (perm)	3500	0	1770	1863	3434	0
Satd. Flow (RTOR)	13				3	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	692	54	12	1946	185	5
Adj. Flow (vph)	854	67	15	2402	228	6
Lane Group Flow (vph)	921	0	15	2402	234	0
Turn Type			Prot			
Protected Phases	2		1	6	3	
Permitted Phases						
Total Split (s)	48.4	0.0	17.5	65.9	24.1	0.0
Act Effct Green (s)	68.0		6.7	70.4	11.6	
Actuated g/C Ratio	0.76		0.07	0.78	0.13	
v/c Ratio	0.35		0.11	1.65	0.53	
Control Delay	1.6		40.4	312.5	40.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	1.6		40.4	312.5	40.2	
LOS	A		D	F	D	
Approach Delay	1.6			310.8	40.2	
Approach LOS	A			F	D	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.65

Intersection Signal Delay: 213.3

Intersection LOS: F

Intersection Capacity Utilization 114.5%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

↙ ø1	→ ø2	↖ ø3
17.5 s	48.4 s	24.1 s
← ø6		
65.9 s		

040501 - Otay Crossings

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖	↗	↖	↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.999					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1861	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1861	0	1770	1863	1770	1583
Satd. Flow (RTOR)						234
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1969	11	54	493	55	216
Adj. Flow (vph)	2316	13	64	580	65	254
Lane Group Flow (vph)	2329	0	64	580	65	254
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	65.5	0.0	21.0	86.5	33.5	33.5
Act Effct Green (s)	62.2		9.2	73.0	9.8	9.8
Actuated g/C Ratio	0.68		0.10	0.80	0.11	0.11
v/c Ratio	1.83		0.37	0.39	0.34	0.67
Control Delay	395.5		46.0	3.7	43.6	16.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	395.5		46.0	3.7	43.6	16.5
LOS	F		D	A	D	B
Approach Delay	395.5			7.9	22.0	
Approach LOS	F			A	C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 90.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.83

Intersection Signal Delay: 283.5

Intersection LOS: F

Intersection Capacity Utilization 124.3%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

↖ ø1	→ ø2	
21 s	65.5 s	
← ø6		↖ ø8
86.5 s		33.5 s

040501 - Otay Crossings

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↙	↖	↗	↖
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.999					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1861	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1861	0	1770	1863	1770	1583
Satd. Flow (RTOR)						103
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	676	4	198	1985	36	95
Adj. Flow (vph)	735	4	215	2158	39	103
Lane Group Flow (vph)	739	0	215	2158	39	103
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	60.3	0.0	25.2	85.5	34.5	34.5
Act Effct Green (s)	60.7		16.8	81.5	8.2	8.2
Actuated g/C Ratio	0.62		0.17	0.83	0.08	0.08
v/c Ratio	0.64		0.71	1.39	0.26	0.45
Control Delay	16.1		50.9	195.3	46.2	15.4
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	16.1		50.9	195.3	46.2	15.4
LOS	B		D	F	D	B
Approach Delay	16.1			182.2	23.8	
Approach LOS	B			F	C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 97.7

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.39

Intersection Signal Delay: 137.6

Intersection LOS: F

Intersection Capacity Utilization 114.5%

ICU Level of Service H

















Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Rd

↙ ø1	→ ø2	
25.2 s	60.3 s	
← ø6		↖ ø8
85.5 s		34.5 s

















040501 - Otay Crossings

14: Otay Mesa Road & Alta Rd.
Ex+Otay Crossings - Units 1-3- AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	652	752	927	0	211	0	248	1	0	0	4	168
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	709	817	1008	0	229	0	270	1	0	0	4	183
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	2534	229	271	187								
Volume Left (vph)	709	0	270	0								
Volume Right (vph)	1008	0	0	183								
Hadj (s)	-0.15	0.03	0.23	-0.55								
Departure Headway (s)	5.9	6.8	7.2	6.7								
Degree Utilization, x	4.18	0.43	0.54	0.35								
Capacity (veh/h)	612	492	479	500								
Control Delay (s)	1447.8	14.9	18.2	13.3								
Approach Delay (s)	1447.8	14.9	18.2	13.3								
Approach LOS	F	B	C	B								
Intersection Summary												
Delay			1142.4									
HCM Level of Service			F									
Intersection Capacity Utilization			181.2%		ICU Level of Service					H		
Analysis Period (min)			15									


















040501 - Otay Crossings

14: Otay Mesa Road & Alta Rd
Ex+Otay Crossings - Units 1-3- PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	101	322	372	0	703	0	879	0	0	0	1	726
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	116	370	428	0	808	0	1010	0	0	0	1	834
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	914	808	1010	836								
Volume Left (vph)	116	0	1010	0								
Volume Right (vph)	428	0	0	834								
Hadj (s)	-0.22	0.03	0.23	-0.57								
Departure Headway (s)	9.3	9.6	9.8	9.0								
Degree Utilization, x	2.37	2.15	2.75	2.09								
Capacity (veh/h)	394	382	377	407								
Control Delay (s)	645.4	549.4	815.3	518.9								
Approach Delay (s)	645.4	549.4	815.3	518.9								
Approach LOS	F	F	F	F								
Intersection Summary												
Delay			642.1									
HCM Level of Service			F									
Intersection Capacity Utilization			189.3%		ICU Level of Service					H		
Analysis Period (min)			15									


















040501 - Otay Crossings

17: Airway Rd & La Media
Ex+Otay Crossings - Units 1-3- AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	9	84	60	30	80	49	57	101	3	209	255	46
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	10	93	67	33	89	54	63	112	3	232	283	51
Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2							
Volume Total (vph)	170	177	179	232	334							
Volume Left (vph)	10	33	63	232	0							
Volume Right (vph)	67	54	3	0	51							
Hadj (s)	-0.19	-0.11	0.16	0.53	0.01							
Departure Headway (s)	6.0	6.0	6.1	6.4	5.9							
Degree Utilization, x	0.28	0.29	0.30	0.41	0.54							
Capacity (veh/h)	550	545	543	545	598							
Control Delay (s)	11.3	11.5	11.6	12.6	14.4							
Approach Delay (s)	11.3	11.5	11.6	13.7								
Approach LOS	B	B	B	B								
Intersection Summary												
Delay			12.6									
HCM Level of Service			B									
Intersection Capacity Utilization			52.9%			ICU Level of Service				A		
Analysis Period (min)			15									




















040501 - Otay Crossings

17: Airway Rd & La Media
Ex+Otay Crossings - Units 1-3- PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	38	145	83	97	116	119	72	180	8	143	171	23
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Hourly flow rate (vph)	38	146	84	98	117	120	73	182	8	144	173	23
Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2							
Volume Total (vph)	269	335	263	144	196							
Volume Left (vph)	38	98	73	144	0							
Volume Right (vph)	84	120	8	0	23							
Hadj (s)	-0.12	-0.12	0.14	0.53	0.04							
Departure Headway (s)	6.6	6.4	7.0	7.7	7.1							
Degree Utilization, x	0.49	0.60	0.51	0.31	0.39							
Capacity (veh/h)	491	515	470	435	457							
Control Delay (s)	15.7	18.4	16.9	12.8	13.4							
Approach Delay (s)	15.7	18.4	16.9	13.2								
Approach LOS	C	C	C	B								
Intersection Summary												
Delay			16.0									
HCM Level of Service			C									
Intersection Capacity Utilization			68.5%			ICU Level of Service				C		
Analysis Period (min)			15									




















040501 - Otay Crossings

19: Airway Rd & Sanyo Ave
Ex+Otay Crossings - Units 1-3- AM











												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	14	81	91	4	111	9	31	15	3	59	121	12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	15	87	98	4	119	10	33	16	3	63	130	13
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2					
Volume Total (vph)	200	124	10	33	19	194	13					
Volume Left (vph)	15	4	0	33	0	63	0					
Volume Right (vph)	98	0	10	0	3	0	13					
Hadj (s)	-0.24	0.05	-0.67	0.53	-0.08	0.20	-0.67					
Departure Headway (s)	5.2	5.5	4.8	6.2	5.6	5.7	4.8					
Degree Utilization, x	0.29	0.19	0.01	0.06	0.03	0.30	0.02					
Capacity (veh/h)	662	618	705	542	597	603	706					
Control Delay (s)	10.2	8.6	6.6	8.4	7.5	9.9	6.7					
Approach Delay (s)	10.2	8.4		8.1		9.7						
Approach LOS	B	A		A		A						
Intersection Summary												
Delay			9.4									
HCM Level of Service			A									
Intersection Capacity Utilization			40.2%		ICU Level of Service					A		
Analysis Period (min)			15									

040501 - Otay Crossings











19: Airway Rd & Sanyo Ave
Ex+Otay Crossings - Units 1-3- PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	4	60	51	4	237	55	79	126	2	21	26	35
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	5	69	59	5	272	63	91	145	2	24	30	40
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2					
Volume Total (vph)	132	277	63	91	147	54	40					
Volume Left (vph)	5	5	0	91	0	24	0					
Volume Right (vph)	59	0	63	0	2	0	40					
Hadj (s)	-0.23	0.04	-0.67	0.53	0.02	0.26	-0.67					
Departure Headway (s)	5.7	5.7	5.0	6.5	6.0	6.4	5.5					
Degree Utilization, x	0.21	0.44	0.09	0.16	0.24	0.10	0.06					
Capacity (veh/h)	594	610	689	525	569	515	597					
Control Delay (s)	10.2	11.8	7.2	9.5	9.7	8.9	7.7					
Approach Delay (s)	10.2	10.9		9.6		8.4						
Approach LOS	B	B		A		A						
Intersection Summary												
Delay			10.1									
HCM Level of Service			B									
Intersection Capacity Utilization			34.1%	ICU Level of Service		A						
Analysis Period (min)			15									











040501 - Otay Crossings

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	86	46	5	91	33	9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	96	51	6	101	37	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			147		233	121
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			147		233	121
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		95	99
cM capacity (veh/h)			1435		752	930
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	147	107	37	10		
Volume Left	0	6	37	0		
Volume Right	51	0	0	10		
cSH	1700	1435	752	930		
Volume to Capacity	0.09	0.00	0.05	0.01		
Queue Length 95th (ft)	0	0	4	1		
Control Delay (s)	0.0	0.4	10.0	8.9		
Lane LOS		A	B	A		
Approach Delay (s)	0.0	0.4	9.8			
Approach LOS			A			
Intersection Summary						
Average Delay			1.7			
Intersection Capacity Utilization			18.9%		ICU Level of Service	A
Analysis Period (min)			15			











040501 - Otay Crossings

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	56	29	26	204	82	10
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	64	33	30	234	94	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			98		375	81
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			98		375	81
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		85	99
cM capacity (veh/h)			1496		613	979
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	98	264	94	11		
Volume Left	0	30	94	0		
Volume Right	33	0	0	11		
cSH	1700	1496	613	979		
Volume to Capacity	0.06	0.02	0.15	0.01		
Queue Length 95th (ft)	0	2	14	1		
Control Delay (s)	0.0	1.0	11.9	8.7		
Lane LOS		A	B	A		
Approach Delay (s)	0.0	1.0	11.6			
Approach LOS			B			
Intersection Summary						
Average Delay			3.2			
Intersection Capacity Utilization			30.1%		ICU Level of Service	A
Analysis Period (min)			15			

























040501 - Otay Crossings

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	31	37	4	85	23	11
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	40	47	5	109	29	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			87		183	63
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			87		183	63
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		96	99
cM capacity (veh/h)			1509		804	1001
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	87	114	29	14		
Volume Left	0	5	29	0		
Volume Right	47	0	0	14		
cSH	1700	1509	804	1001		
Volume to Capacity	0.05	0.00	0.04	0.01		
Queue Length 95th (ft)	0	0	3	1		
Control Delay (s)	0.0	0.4	9.6	8.6		
Lane LOS		A	A	A		
Approach Delay (s)	0.0	0.4	9.3			
Approach LOS			A			
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			17.7%		ICU Level of Service	A
Analysis Period (min)			15			

040501 - Otay Crossings

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	13	36	1	153	55	1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	15	43	1	182	65	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				1314		
pX, platoon unblocked						
vC, conflicting volume			58		221	37
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			58		221	37
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		91	100
cM capacity (veh/h)			1546		766	1035
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	58	183	65	1		
Volume Left	0	1	65	0		
Volume Right	43	0	0	1		
cSH	1700	1546	766	1035		
Volume to Capacity	0.03	0.00	0.09	0.00		
Queue Length 95th (ft)	0	0	7	0		
Control Delay (s)	0.0	0.1	10.1	8.5		
Lane LOS		A	B	A		
Approach Delay (s)	0.0	0.1	10.1			
Approach LOS			B			
Intersection Summary						
Average Delay			2.2			
Intersection Capacity Utilization			18.8%		ICU Level of Service	A
Analysis Period (min)			15			

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frst		0.925	0.850			0.850		0.944			0.959	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1637	1504	1770	1863	1583	1770	3341	0	1770	3394	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1637	1504	1770	1863	1583	1770	3341	0	1770	3394	0
Satd. Flow (RTOR)		12	22			1		106			35	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	3	11	27	1	2	1	59	253	173	1	75	28
Adj. Flow (vph)	4	12	34	1	2	1	74	316	188	1	94	35
Lane Group Flow (vph)	4	24	22	1	2	1	74	504	0	1	129	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Total Split (s)	9.5	21.0	21.0	9.0	20.5	20.5	12.3	21.0	0.0	49.0	57.7	0.0
Act Effct Green (s)	6.8	8.4	8.4	6.2	8.3	8.3	10.9	45.8		7.5	40.0	
Actuated g/C Ratio	0.10	0.13	0.13	0.09	0.13	0.13	0.17	0.78		0.11	0.68	
v/c Ratio	0.02	0.11	0.10	0.01	0.01	0.00	0.25	0.19		0.01	0.06	
Control Delay	18.3	12.1	9.4	19.0	15.5	14.0	13.0	4.5		18.0	8.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	18.3	12.1	9.4	19.0	15.5	14.0	13.0	4.5		18.0	8.2	
LOS	B	B	A	B	B	B	B	A		B	A	
Approach Delay		11.4			16.0			5.6			8.2	
Approach LOS		B			B			A			A	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 58.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.25

Intersection Signal Delay: 6.5









Intersection Capacity Utilization 29.2%























Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service A

Splits and Phases: 23: Airway Rd & Enrico Fermi Dr

 ø1	 ø2	 ø3	 ø4
49 s	21 s	9 s	21 s
 ø6	 ø5	 ø7	 ø8
57.7 s	12.3 s	9.5 s	20.5 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Fr _t		0.850	0.850					0.999			0.938	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1770	1504	1504	1863	1863	1863	1770	3536	0	1863	3320	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1770	1504	1504	1863	1863	1863	1770	3536	0	1863	3320	0
Satd. Flow (RTOR)		862	862					1			106	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	2	0	13	0	0	0	70	166	1	0	124	87
Adj. Flow (vph)	2	0	16	0	0	0	85	202	1	0	151	106
Lane Group Flow (vph)	2	8	8	0	0	0	85	203	0	0	257	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Total Split (s)	15.5	27.5	27.5	15.5	27.5	27.5	20.9	31.5	0.0	15.5	26.1	0.0
Act Effct Green (s)	6.2	6.1	6.1				11.3	87.1			71.5	
Actuated g/C Ratio	0.07	0.07	0.07				0.13	0.97			0.79	
v/c Ratio	0.02	0.01	0.01				0.38	0.06			0.10	
Control Delay	39.0	0.0	0.0				40.7	0.4			2.3	
Queue Delay	0.0	0.0	0.0				0.0	0.0			0.0	
Total Delay	39.0	0.0	0.0				40.7	0.4			2.3	
LOS	D	A	A				D	A			A	
Approach Delay		4.3						12.3			2.3	
Approach LOS		A						B			A	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.38

Intersection Signal Delay: 7.5









Intersection LOS: A

Intersection Capacity Utilization 23.4%

















ICU Level of Service A

Analysis Period (min) 15

















Splits and Phases: 23: Airway Rd & Enrico Fermi Rd

 ø1	 ø2	 ø3	 ø4
15.5 s	31.5 s	15.5 s	27.5 s
 ø6	 ø5	 ø7	 ø8
26.1 s	20.9 s	15.5 s	27.5 s

040501 - Otay Crossings

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	5	2	0	10	2	93	0	9	2	236	34	4
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	6	2	0	11	2	107	0	10	2	271	39	5
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	8	121	13	315								
Volume Left (vph)	6	11	0	271								
Volume Right (vph)	0	107	2	5								
Hadj (s)	0.18	-0.48	0.01	0.21								
Departure Headway (s)	5.0	4.2	4.5	4.4								
Degree Utilization, x	0.01	0.14	0.02	0.39								
Capacity (veh/h)	661	791	749	789								
Control Delay (s)	8.0	7.9	7.6	10.2								
Approach Delay (s)	8.0	7.9	7.6	10.2								
Approach LOS	A	A	A	B								
Intersection Summary												
Delay			9.5									
HCM Level of Service			A									
Intersection Capacity Utilization			34.7%		ICU Level of Service					A		
Analysis Period (min)			15									

040501 - Otay Crossings

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	5	10	0	9	3	121	0	61	1	178	161	10
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	6	12	0	11	4	149	0	75	1	220	199	12
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	19	164	77	431								
Volume Left (vph)	6	11	0	220								
Volume Right (vph)	0	149	1	12								
Hadj (s)	0.10	-0.50	0.12	0.17								
Departure Headway (s)	5.5	4.7	5.0	4.6								
Degree Utilization, x	0.03	0.21	0.11	0.55								
Capacity (veh/h)	580	700	674	754								
Control Delay (s)	8.6	8.9	8.6	13.2								
Approach Delay (s)	8.6	8.9	8.6	13.2								
Approach LOS	A	A	A	B								
Intersection Summary												
Delay			11.5									
HCM Level of Service			B									
Intersection Capacity Utilization			40.7%		ICU Level of Service					A		
Analysis Period (min)			15									

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↘↙	↑↑↑		↗↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	0.91	0.97	0.91	1.00	0.88
Frt	0.986					0.850
Flt Protected			0.950			
Satd. Flow (prot)	5014	0	3433	5085	0	2787
Flt Permitted			0.950			
Satd. Flow (perm)	5014	0	3433	5085	0	2787
Satd. Flow (RTOR)	19					940
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	468	46	225	702	0	280
Adj. Flow (vph)	514	51	247	771	0	308
Lane Group Flow (vph)	565	0	247	771	0	308
Turn Type			Prot			custom
Protected Phases	2		1	6		
Permitted Phases						8
Total Split (s)	33.0	0.0	25.0	58.0	0.0	32.0
Act Effct Green (s)	60.3		11.7	76.0		6.0
Actuated g/C Ratio	0.67		0.13	0.84		0.07
v/c Ratio	0.17		0.55	0.18		0.29
Control Delay	5.7		40.2	1.1		0.7
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	5.7		40.2	1.1		0.7
LOS	A		D	A		A
Approach Delay	5.7			10.6		
Approach LOS	A			B		

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 66 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.55

Intersection Signal Delay: 7.5

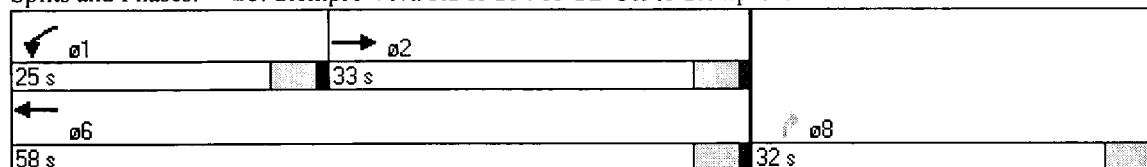
Intersection LOS: A

Intersection Capacity Utilization 26.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 28: Siempre Viva Rd & SR905 SB Off to Siempre Viva EB



28: Siempre Viva Road & SR905 SB Off Ramp to Siempre Viva EB

040501 - Otay Crossings

Ex+Otay Crossings - Units 1-3- PM

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↘↙	↑↑↑		↗↖
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	0.91	0.97	0.91	1.00	0.88
Frt	0.937					0.850
Flt Protected			0.950			
Satd. Flow (prot)	4765	0	3433	5085	0	2787
Flt Permitted			0.950			
Satd. Flow (perm)	4765	0	3433	5085	0	2787
Satd. Flow (RTOR)	214					1005
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	444	322	416	669	0	175
Adj. Flow (vph)	522	379	489	787	0	206
Lane Group Flow (vph)	901	0	489	787	0	206
Turn Type			Prot			custom
Protected Phases	2		1	6		
Permitted Phases						8
Total Split (s)	32.8	0.0	28.7	61.5	0.0	28.5
Act Effct Green (s)	47.3		24.7	76.0		6.0
Actuated g/C Ratio	0.53		0.27	0.84		0.07
v/c Ratio	0.35		0.52	0.18		0.18
Control Delay	9.6		25.6	1.3		0.4
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	9.6		25.6	1.3		0.4
LOS	A		C	A		A
Approach Delay	9.6			10.6		
Approach LOS	A			B		

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 29 (32%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 9.3

Intersection LOS: A







Intersection Capacity Utilization 34.3%







ICU Level of Service A

























Analysis Period (min) 15

Splits and Phases: 28: Siempre Viva Road & SR905 SB Off Ramp to Siempre Viva EB

→ ø2	↙ ø1	
32.8 s	28.7 s	
← ø6		↗ ø8
61.5 s		28.5 s

							
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		↑↑↑	↑↑↑			↑	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Volume (veh/h)	0	748	563	0	0	364	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	
Hourly flow rate (vph)	0	860	647	0	0	418	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type					None		
Median storage veh							
Upstream signal (ft)		281	733				
pX, platoon unblocked					0.98		
vC, conflicting volume	647				934	216	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	647				900	216	
tC, single (s)	4.1				6.8	6.9	
tC, 2 stage (s)							
tF (s)	2.2				3.5	3.3	
p0 queue free %	100				100	47	
cM capacity (veh/h)	934				274	789	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	287	287	287	216	216	216	418
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	418
cSH	1700	1700	1700	1700	1700	1700	789
Volume to Capacity	0.17	0.17	0.17	0.13	0.13	0.13	0.53
Queue Length 95th (ft)	0	0	0	0	0	0	79
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	14.6
Lane LOS							B
Approach Delay (s)	0.0			0.0			14.6
Approach LOS							B
Intersection Summary							
Average Delay			3.2				
Intersection Capacity Utilization			40.1%		ICU Level of Service		A
Analysis Period (min)			15				

							
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		↑↑↑	↑↑↑			↑	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Volume (veh/h)	0	619	709	0	0	376	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	
Hourly flow rate (vph)	0	666	762	0	0	404	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type					None		
Median storage veh							
Upstream signal (ft)		225	412				
pX, platoon unblocked	0.96				0.96	0.96	
vC, conflicting volume	762				984	254	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	675				905	147	
tC, single (s)	4.1				6.8	6.9	
tC, 2 stage (s)							
tF (s)	2.2				3.5	3.3	
p0 queue free %	100				100	52	
cM capacity (veh/h)	878				266	841	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	222	222	222	254	254	254	404
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	404
cSH	1700	1700	1700	1700	1700	1700	841
Volume to Capacity	0.13	0.13	0.13	0.15	0.15	0.15	0.48
Queue Length 95th (ft)	0	0	0	0	0	0	66
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	13.2
Lane LOS							B
Approach Delay (s)	0.0			0.0			13.2
Approach LOS							B
Intersection Summary							
Average Delay			2.9				
Intersection Capacity Utilization			43.6%		ICU Level of Service		A
Analysis Period (min)			15				

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  				 			
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	1.00	1.00	0.88	1.00	1.00	1.00
Frts					0.992	0.850			0.850			
Flt Protected	0.950							0.953				
Satd. Flow (prot)	3433	5085	0	0	4767	1362	0	1775	2787	0	0	0
Flt Permitted	0.950							0.953				
Satd. Flow (perm)	3433	5085	0	0	4767	1362	0	1775	2787	0	0	0
Satd. Flow (RTOR)					10	157			318			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	125	613	0	0	405	175	164	1	305	0	0	0
Adj. Flow (vph)	130	639	0	0	422	182	171	1	318	0	0	0
Lane Group Flow (vph)	130	639	0	0	447	157	0	172	318	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Total Split (s)	24.0	56.5	0.0	0.0	32.5	32.5	33.5	33.5	33.5	0.0	0.0	0.0
Act Effct Green (s)	9.0	68.1			55.1	55.1		13.9	13.9			
Actuated g/C Ratio	0.10	0.76			0.61	0.61		0.15	0.15			
v/c Ratio	0.38	0.17			0.15	0.18		0.63	0.45			
Control Delay	37.8	1.4			8.3	2.3		45.1	5.9			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	37.8	1.4			8.3	2.3		45.1	5.9			
LOS	D	A			A	A		D	A			
Approach Delay		7.6			6.7			19.7				
Approach LOS		A			A			B				

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 77 (86%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 10.5





Intersection LOS: B

Intersection Capacity Utilization 40.1%

ICU Level of Service A

Analysis Period (min) 15



















Splits and Phases: 30: Siempre Viva Rd & SR 905 NB On Ramp

 ø2	 ø8
56.5 s	33.5 s
 ø6	 ø5
32.5 s	24 s

30: Siempre Viva Road & SR905 NB On Ramp

040501 - Otay Crossings

Ex+Otay Crossings - Units 1-3- PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	1.00	1.00	0.88	1.00	1.00	1.00
Frts					0.984	0.850			0.850			
Flt Protected	0.950							0.954				
Satd. Flow (prot)	3433	5085	0	0	4729	1362	0	1777	2787	0	0	0
Flt Permitted	0.950							0.954				
Satd. Flow (perm)	3433	5085	0	0	4729	1362	0	1777	2787	0	0	0
Satd. Flow (RTOR)					23	317			233			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	297	352	0	0	655	373	49	2	217	0	0	0
Adj. Flow (vph)	319	378	0	0	704	401	53	2	233	0	0	0
Lane Group Flow (vph)	319	378	0	0	788	317	0	55	233	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Total Split (s)	26.1	61.5	0.0	0.0	35.4	35.4	28.5	28.5	28.5	0.0	0.0	0.0
Act Effct Green (s)	14.5	73.5			55.0	55.0		8.5	8.5			
Actuated g/C Ratio	0.16	0.82			0.61	0.61		0.09	0.09			
v/c Ratio	0.58	0.09			0.27	0.33		0.33	0.49			
Control Delay	32.3	0.9			8.9	2.2		42.7	9.1			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	32.3	0.9			8.9	2.2		42.7	9.1			
LOS	C	A			A	A		D	A			
Approach Delay		15.2			7.0			15.5				
Approach LOS		B			A			B				

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 66 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 10.9





Intersection LOS: B
























Intersection Capacity Utilization 43.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 30: Siempre Viva Road & SR905 NB On Ramp

	
ø2	ø8
61.5 s	28.5 s
	
ø5	ø6
26.1 s	35.4 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frts			0.850						0.850		0.932	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3539	0	1770	3539	1583	1770	3299	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5085	1583	1770	3539	0	1770	3539	1583	1770	3299	0
Satd. Flow (RTOR)			154						5		58	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	517	423	140	21	278	1	120	51	5	8	64	53
Adj. Flow (vph)	568	465	154	23	305	1	132	56	5	9	70	58
Lane Group Flow (vph)	568	465	154	23	306	0	132	56	5	9	128	0
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Total Split (s)	36.0	48.1	48.1	9.4	21.5	0.0	12.0	24.0	24.0	8.5	20.5	0.0
Act Effct Green (s)	27.7	40.3	40.3	5.4	11.9		8.1	18.4	18.4	4.6	7.7	
Actuated g/C Ratio	0.39	0.56	0.56	0.07	0.17		0.11	0.26	0.26	0.06	0.11	
v/c Ratio	0.83	0.16	0.16	0.19	0.52		0.66	0.06	0.01	0.09	0.32	
Control Delay	32.8	8.4	2.4	39.6	31.7		51.7	24.7	17.2	39.8	21.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	32.8	8.4	2.4	39.6	31.7		51.7	24.7	17.2	39.8	21.5	
LOS	C	A	A	D	C		D	C	B	D	C	
Approach Delay		19.3			32.2			43.0			22.7	
Approach LOS		B			C			D			C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 71.7

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 24.3









Intersection Capacity Utilization 59.7%
























Analysis Period (min) 15

Intersection LOS: C

ICU Level of Service B

Splits and Phases: 32: Siempre Viva Rd & Paseo De Las Americas

			
ø1	ø2	ø3	ø4
9.4 s	48.1 s	12 s	20.5 s
			
ø5	ø6	ø7	ø8
36 s	21.5 s	8.5 s	24 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frts			0.850		0.994				0.850		0.926	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3518	0	1770	3539	1583	1770	3277	0
Flt Permitted	0.950			0.950			0.459			0.666		
Satd. Flow (perm)	1770	5085	1583	1770	3518	0	855	3539	1583	1241	3277	0
Satd. Flow (RTOR)			67		3				8		89	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	630	136	59	30	352	14	269	120	7	6	80	78
Adj. Flow (vph)	716	155	67	34	400	16	306	136	8	7	91	89
Lane Group Flow (vph)	716	155	67	34	416	0	306	136	8	7	180	0
Turn Type	Prot		Perm	Prot			pm+pt		Perm	pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2				8		8	4		
Total Split (s)	57.0	67.3	67.3	10.6	20.9	0.0	21.6	31.0	31.0	11.1	20.5	0.0
Act Effct Green (s)	45.9	59.9	59.9	6.6	15.7		29.5	27.5	27.5	15.6	9.1	
Actuated g/C Ratio	0.44	0.58	0.58	0.06	0.15		0.29	0.27	0.27	0.14	0.09	
v/c Ratio	0.91	0.05	0.07	0.31	0.78		0.79	0.14	0.02	0.03	0.49	
Control Delay	44.7	10.8	3.2	60.0	54.9		50.0	33.0	19.1	33.0	30.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	44.7	10.8	3.2	60.0	54.9		50.0	33.0	19.1	33.0	30.1	
LOS	D	B	A	E	D		D	C	B	C	C	
Approach Delay		36.1			55.2			44.3			30.2	
Approach LOS		D			E			D			C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 103.4

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 41.6









Intersection Capacity Utilization 78.0%

Analysis Period (min) 15



















Intersection LOS: D

ICU Level of Service D




















Splits and Phases: 32: Siempre Viva Road & Paseo De Las Americas

























			
ø1	ø2	ø3	ø4
10.6 s	67.3 s	21.6 s	20.5 s
			
ø5	ø6	ø7	ø8
57 s	20.9 s	11.1 s	31 s

040501 - Otay Crossings

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	54	270	62	20	226	1	21	17	22	2	5	27
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	64	321	74	24	269	1	25	20	26	2	6	32
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)		1276										
pX, platoon unblocked												
vC, conflicting volume	270			395			704	805	198	643	841	135
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	270			395			704	805	198	643	841	135
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			98			91	93	97	99	98	96
cM capacity (veh/h)	1290			1160			291	293	810	311	279	889
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2			
Volume Total	64	214	181	24	179	91	71	8	32			
Volume Left	64	0	0	24	0	0	25	2	0			
Volume Right	0	0	74	0	0	1	26	0	32			
cSH	1290	1700	1700	1160	1700	1700	381	287	889			
Volume to Capacity	0.05	0.13	0.11	0.02	0.11	0.05	0.19	0.03	0.04			
Queue Length 95th (ft)	4	0	0	2	0	0	17	2	3			
Control Delay (s)	7.9	0.0	0.0	8.2	0.0	0.0	16.6	17.9	9.2			
Lane LOS	A			A			C	C	A			
Approach Delay (s)	1.1			0.7			16.6	11.0				
Approach LOS							C	B				
Intersection Summary												
Average Delay			2.7									
Intersection Capacity Utilization			32.8%				ICU Level of Service		A			
Analysis Period (min)			15									

040501 - Otay Crossings

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	39	80	20	17	261	5	51	15	0	1	19	52
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	43	88	22	19	287	5	56	16	0	1	21	57
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)		1290			1303							
pX, platoon unblocked												
vC, conflicting volume	292			110			433	514	55	465	523	146
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	292			110			433	514	55	465	523	146
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			99			87	96	100	100	95	93
cM capacity (veh/h)	1266			1478			440	441	1000	451	436	874
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2			
Volume Total	43	59	51	19	191	101	73	22	57			
Volume Left	43	0	0	19	0	0	56	1	0			
Volume Right	0	0	22	0	0	5	0	0	57			
cSH	1266	1700	1700	1478	1700	1700	440	437	874			
Volume to Capacity	0.03	0.03	0.03	0.01	0.11	0.06	0.16	0.05	0.07			
Queue Length 95th (ft)	3	0	0	1	0	0	15	4	5			
Control Delay (s)	7.9	0.0	0.0	7.5	0.0	0.0	14.8	13.7	9.4			
Lane LOS	A			A			B	B	A			
Approach Delay (s)	2.2			0.4			14.8	10.6				
Approach LOS							B	B				
Intersection Summary												
Average Delay			3.9									
Intersection Capacity Utilization			31.0%				ICU Level of Service			A		
Analysis Period (min)			15									

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 				 			 			 	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frts		0.917			0.993			0.997			0.906	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	1708	0	1863	3514	0	1770	3529	0	1863	3207	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	1708	0	1863	3514	0	1770	3529	0	1863	3207	0
Satd. Flow (RTOR)		5			5			2			45	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	258	3	4	0	80	4	9	109	2	0	21	35
Adj. Flow (vph)	335	4	5	0	104	5	12	142	3	0	27	45
Lane Group Flow (vph)	335	9	0	0	109	0	12	145	0	0	72	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Total Split (s)	22.0	33.0	0.0	15.0	26.0	0.0	15.0	27.0	0.0	15.0	27.0	0.0
Act Effct Green (s)	9.7	15.9			7.2		6.6	14.5			13.1	
Actuated g/C Ratio	0.26	0.43			0.18		0.15	0.41			0.37	
v/c Ratio	0.37	0.01			0.17		0.04	0.10			0.06	
Control Delay	13.1	4.4			15.2		19.8	11.4			9.4	
Queue Delay	0.0	0.0			0.0		0.0	0.0			0.0	
Total Delay	13.1	4.4			15.2		19.8	11.4			9.4	
LOS	B	A			B		B	B			A	
Approach Delay		12.9			15.2			12.0			9.4	
Approach LOS		B			B			B			A	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 35.2

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.37

Intersection Signal Delay: 12.7









Intersection Capacity Utilization 27.9%

Analysis Period (min) 15





















Intersection LOS: B

ICU Level of Service A

Splits and Phases: 34: Siempre Viva Rd & Enrico Fermi Dr

 ø1	 ø2	 ø3	 ø4
15 s	33 s	15 s	27 s
 ø6	 ø5	 ø7	 ø8
26 s	22 s	15 s	27 s

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frts		0.872			0.953			0.998			0.855	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1624	0	1770	3373	0	1770	3532	0	1770	3026	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1624	0	1770	3373	0	1770	3532	0	1770	3026	0
Satd. Flow (RTOR)		23			11			1			809	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	48	4	22	11	23	11	146	156	2	3	4	118
Adj. Flow (vph)	50	4	23	11	24	11	152	162	2	3	4	123
Lane Group Flow (vph)	50	27	0	11	35	0	152	164	0	3	127	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Total Split (s)	13.5	26.8	0.0	13.5	26.8	0.0	24.2	36.2	0.0	13.5	25.5	0.0
Act Effct Green (s)	7.2	9.2		6.8	6.8		11.5	49.8		6.5	33.0	
Actuated g/C Ratio	0.11	0.14		0.10	0.10		0.19	0.81		0.09	0.54	
v/c Ratio	0.14	0.11		0.06	0.10		0.46	0.06		0.02	0.06	
Control Delay	25.9	13.6		28.8	20.9		23.6	5.3		29.0	0.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	25.9	13.6		28.8	20.9		23.6	5.3		29.0	0.1	
LOS	C	B		C	C		C	A		C	A	
Approach Delay		21.6			22.8			14.1			0.7	
Approach LOS		C			C			B			A	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 61.5

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.46

Intersection Signal Delay: 12.8









Intersection Capacity Utilization 30.1%

Analysis Period (min) 15












Intersection LOS: B

ICU Level of Service A

Splits and Phases: 34: Siempre Viva Road & Enrico Fermi Rd

			
ø2	ø1	ø4	ø3
26.8 s	13.5 s	25.5 s	24.2 s
			
ø5	ø6	ø8	ø7
13.5 s	26.8 s	36.2 s	13.5 s

040501 - Otay Crossings

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.996			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1855	0	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	1855	0	1770	1863
Satd. Flow (RTOR)		5	3			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	6	5	634	19	1	166
Adj. Flow (vph)	7	5	689	21	1	180
Lane Group Flow (vph)	7	5	710	0	1	180
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Total Split (s)	25.5	25.5	51.0	0.0	13.5	64.5
Act Effct Green (s)	6.5	6.5	110.3		6.2	112.7
Actuated g/C Ratio	0.05	0.05	0.95		0.05	0.97
v/c Ratio	0.08	0.06	0.40		0.01	0.10
Control Delay	27.7	18.0	2.3		27.0	0.5
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	27.7	18.0	2.3		27.0	0.5
LOS	C	B	A		C	A
Approach Delay	23.6		2.3			0.7
Approach LOS	C		A			A

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 116.1

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.40

Intersection Signal Delay: 2.2





Intersection Capacity Utilization 44.5%

Analysis Period (min) 15












Intersection LOS: A

ICU Level of Service A

Splits and Phases: 67: Paseo De La Fuente & Alta Rd.

		
ø2	ø1	
51 s	13.5 s	
		
ø6	ø8	
64.5 s	25.5 s	

040501 - Otay Crossings

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frts		0.850	0.996			
Flt Protected	0.950					
Satd. Flow (prot)	1770	1583	1855	0	1863	1863
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1583	1855	0	1863	1863
Satd. Flow (RTOR)		2	2			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	221	2	98	3	0	506
Adj. Flow (vph)	273	2	121	4	0	625
Lane Group Flow (vph)	273	2	125	0	0	625
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Total Split (s)	37.3	37.3	34.2	0.0	18.5	52.7
Act Effct Green (s)	12.7	12.7	24.8			24.8
Actuated g/C Ratio	0.28	0.28	0.54			0.54
v/c Ratio	0.56	0.00	0.12			0.62
Control Delay	18.3	10.5	6.4			11.4
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	18.3	10.5	6.4			11.4
LOS	B	B	A			B
Approach Delay	18.2		6.4			11.4
Approach LOS	B		A			B

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 45.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 12.6





Intersection Capacity Utilization 45.5%

Analysis Period (min) 15

Intersection LOS: B

ICU Level of Service A

Splits and Phases: 67: Paseo De La Fuente & Alta Rd

		
ø1	ø2	
18.5 s	34.2 s	
		
ø6	ø8	
52.7 s	37.3 s	

Existing + Project Units 1-3 Intersection ILV Analysis

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Heritage

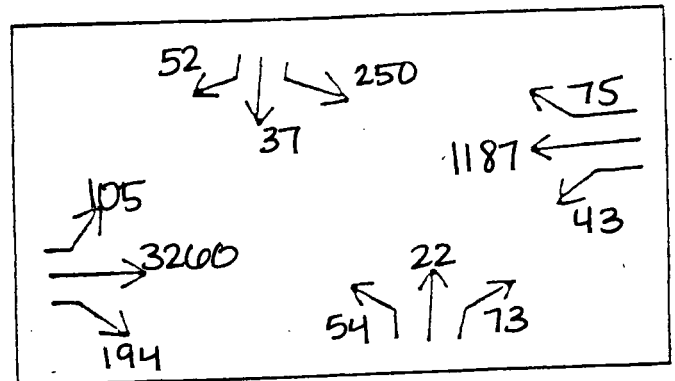
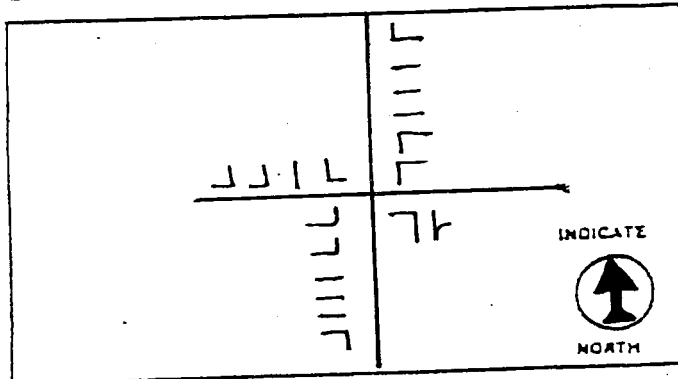
DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-3

BY JB DATE 4-6-10

TIME (AM) PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
<div style="display: flex; justify-content: space-between;"> 22 21 </div>	<div style="display: flex; justify-content: space-between;"> 52 53 </div>

Phase 2	
<div style="display: flex; justify-content: space-between;"> 25 396 </div>	<div style="display: flex; justify-content: space-between;"> 1086 1087 </div>

Phase 3	
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Phase 4	
<div style="display: flex; justify-content: space-between;"> 61 61 </div>	<div style="display: flex; justify-content: space-between;"> 95 </div>

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
53

Phase 2
1,087

Phase 3
250

Phase 4
95

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,485

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Heritage

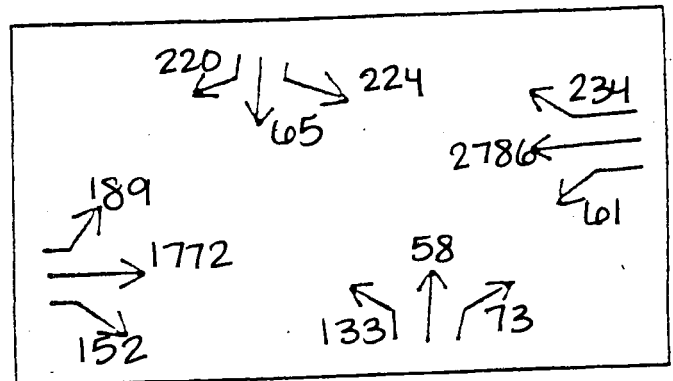
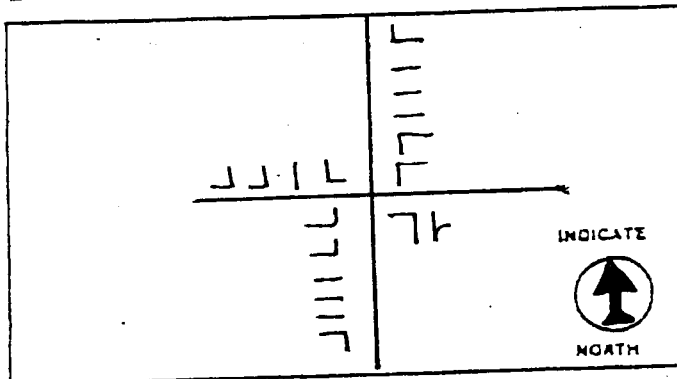
DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-3

BY JB DATE 4-6-10

TIME AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
80	31
94	30
95	

Phase 2	
134	
929	
929	
928	
590	
591	
591	
77	

Phase 3	
224	
75	
	100
	133

Phase 4	
80	
95	
131	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
95

Phase 2
929

Phase 3
224

Phase 4
131

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,379

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Cactus

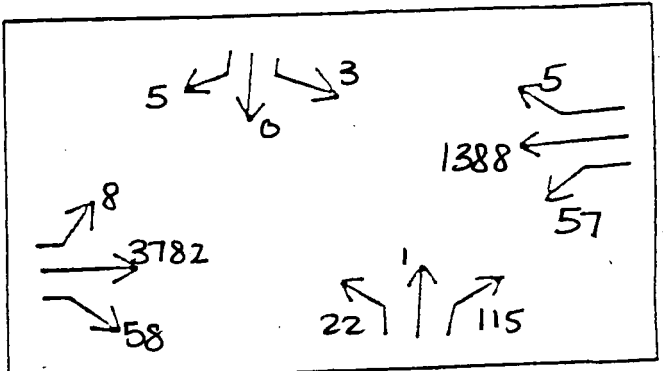
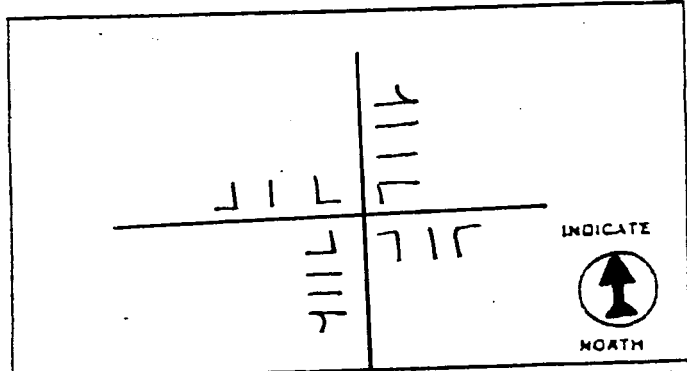
DIST. CO. RTE. P.M. 11/SD/905

BY ALB DATE 4-6-10

TIME 6 AM PM

Existing + Units 1-3

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
0	57
8	50

Phase 2	
464	465
464	
1280	
1280	
1280	

Phase 3	
3	
	22

Phase 4	
50	
	65

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
57

Phase 2
1,280

Phase 3
22

Phase 4
65

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,424

- Is . . .
- ☐ < 1200 ILV/hr.
 - ☒ > 1200 but < 1500 ILV/hr.
 - ☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Cactus

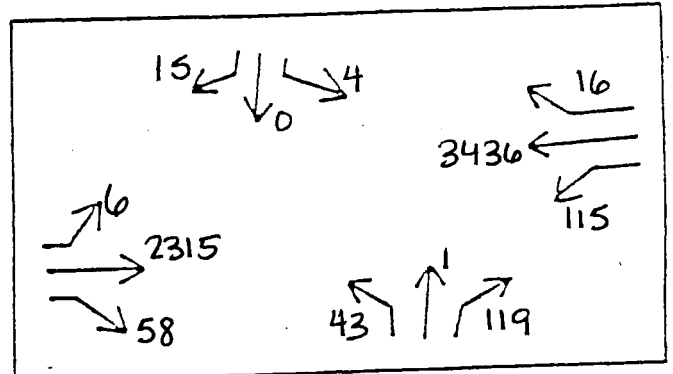
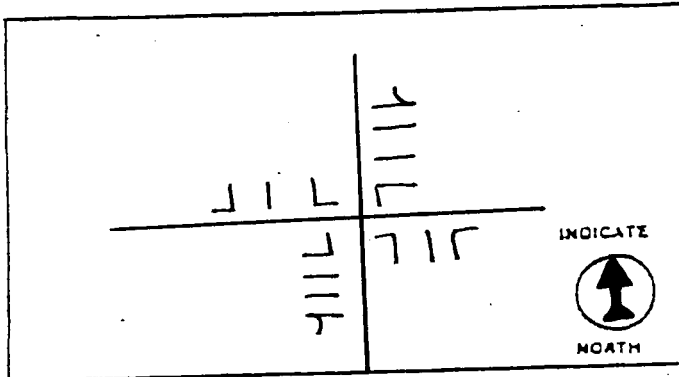
DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-3

BY LB DATE 4-6-10

TIME AM (PM)

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
9	115
6	75

Phase 2	
1150	
1151	
1151	
791	
791	
791	

Phase 3	
151	
	43

Phase 4	
151	
	44

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
115

Phase 2
1,151

Phase 3
43

Phase 4
44

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,353

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

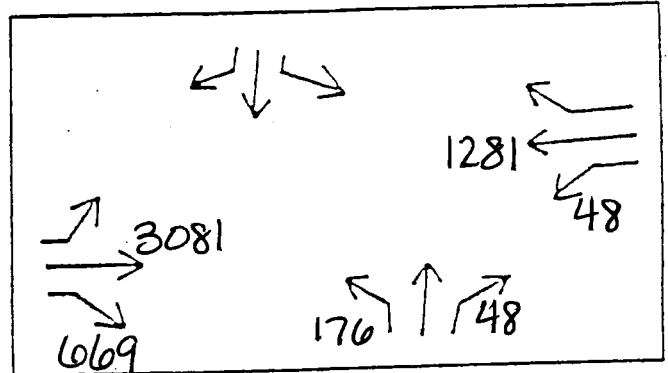
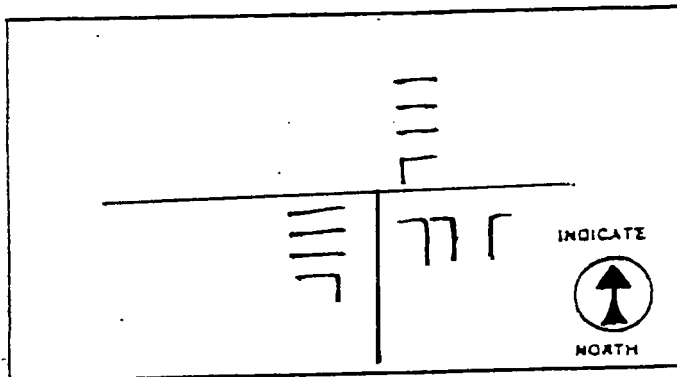
INTERSECTION Otay Mesa Rd / Britannia Blvd DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-3

BY VB DATE 4-6-10

TIME (AM) PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
— 48	
— 48	
— 48	
└ 48	

Phase 2	
— 379	
— 379	
— 379	
1027 —	
1027 —	
1027 —	
581 └	

Phase 3	
88 └	
88	88
88	88

Phase 4	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
48

Phase 2
1,027

Phase 3
88

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,163

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

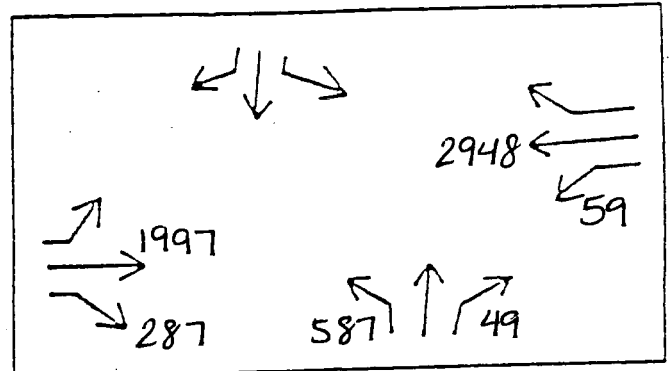
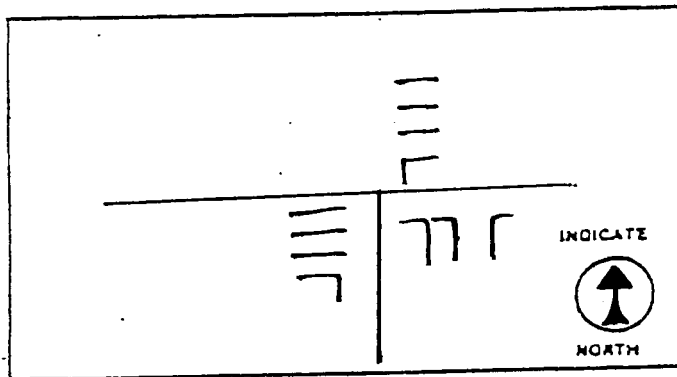
INTERSECTION Otay Mesa Rd / Britannia Blvd DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-3

BY VB DATE 4-6-10

TIME _____ AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
—	59
—	59
—	59
└	59

Phase 2	
—	923
—	924
—	924
6065	—
6066	—
6066	—
187	└

Phase 3	
100	└
	└
	└
	└
	293
	294
	49

Phase 4	
---------	--

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
59

Phase 2
924

Phase 3
294

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,277

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

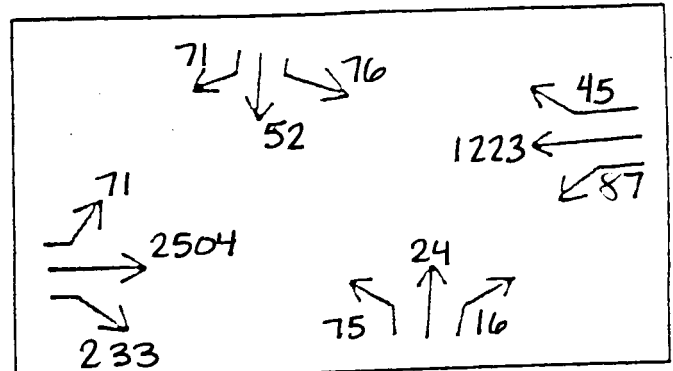
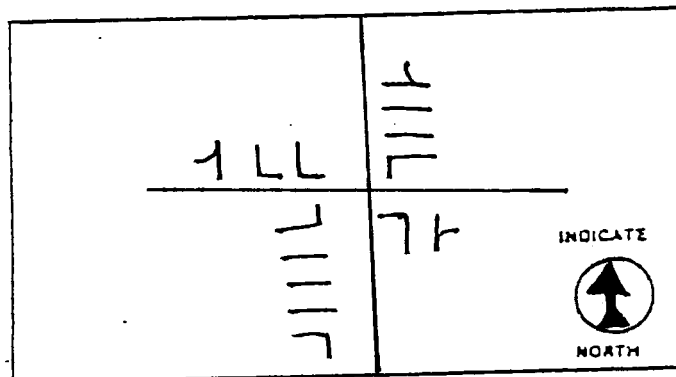
Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa Rd/La Media Rd DIST. CO. RTE. P.M. 11/SD/905
 BY JB DATE 4-6-10
 TIME (AM) PM

Existing + Units 1-3

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1		Phase 2		Phase 3		Phase 4	
			422	38		123	
			423	38			
			423	LL			
71	87	834		38	75		75
		835					
		835					
		195					

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
87	835	75	123

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,120

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

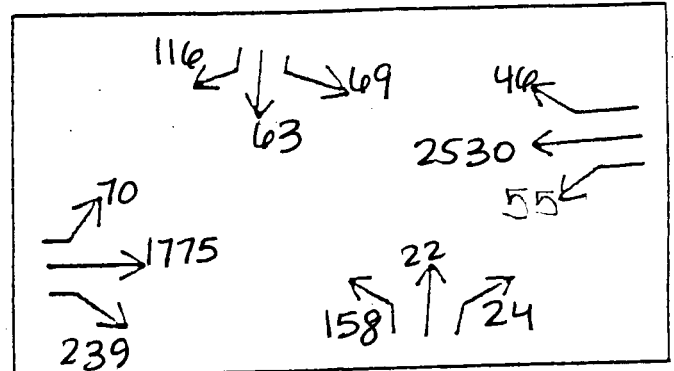
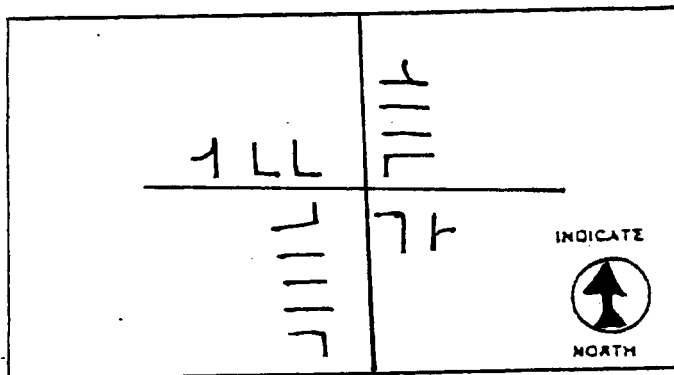
INTERSECTION Otay Mesa Rd/La Media Rd DIST. CO. RTE. P.M. 11/SD/905

BY JB DATE 4-6-10

TIME AM (PM)

Existing + Units 1-3

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
	55
70	

Phase 2	
	858
	859
	859
591	
592	
592	
139	

Phase 3	
100	
	158

Phase 4	
179	
	6

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
70

Phase 2
859

Phase 3
158

Phase 4
179

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,266

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / Piper Ranch

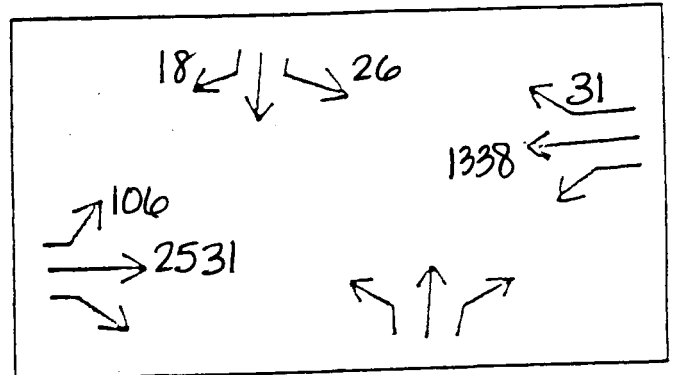
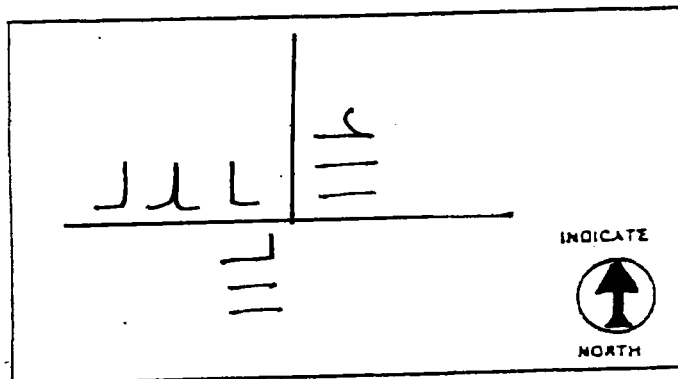
DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-3

BY JB DATE 4-6-10

TIME (AM) PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
106	└
106	—
106	—

Phase 2	
	└ 456
	— 457
	— 456
1159	—
1160	—

Phase 3	
└ 106	
└ 106	
└ 106	

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
106

Phase 2
1,160

Phase 3
15

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,281

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Piper Ranch

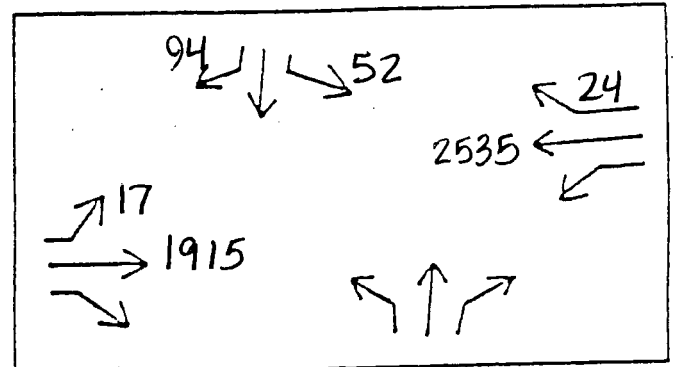
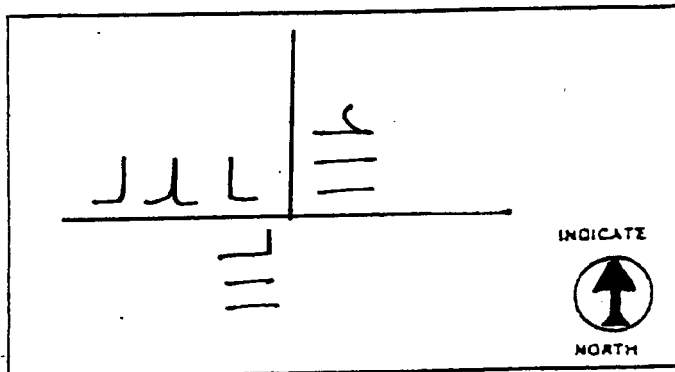
DIST. CO. RTE. P.M. 11/SD/905

BY JB DATE 4-6-10

TIME _____ AM PM

Existing + Units 1-3

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
17	└┐
17	—
17	—

Phase 2	
940	—
941	—

Phase 3	
5	└┐
6	—
6	—
6	—

Phase 4	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
17

Phase 2
941

Phase 3
49

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,007

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / SR-125 SB Ramp

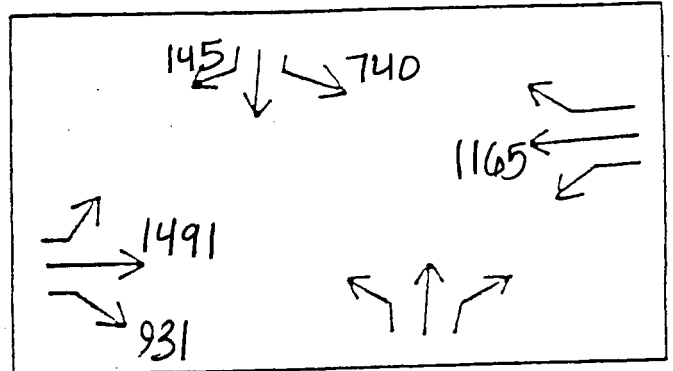
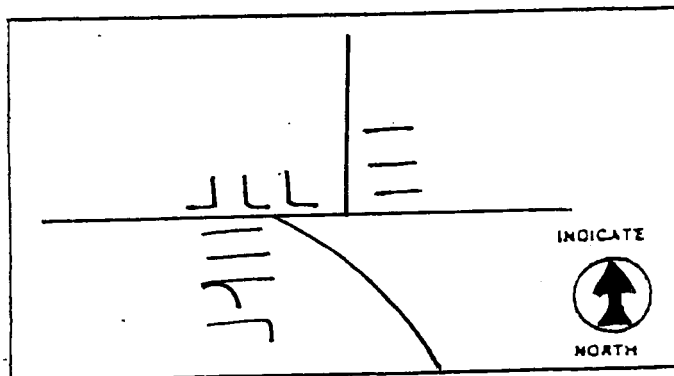
DIST. CO. RTE. P.M. 11/SD/905

BY DLB DATE 4-6-10

TIME (AM) PM

Existing + Units 1-3

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
<div> <div>388</div> <div>389</div> <div>388</div> </div> <div> <div>513</div> <div>513</div> <div>513</div> <div>513</div> </div>	<div> <div>145</div> <div>370</div> <div>370</div> </div> <div> <div>370</div> </div>		

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
513	370		

TOTAL OPERATING LEVEL (ILV/hr):

Σ
883

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / SR-125 SB Ramp

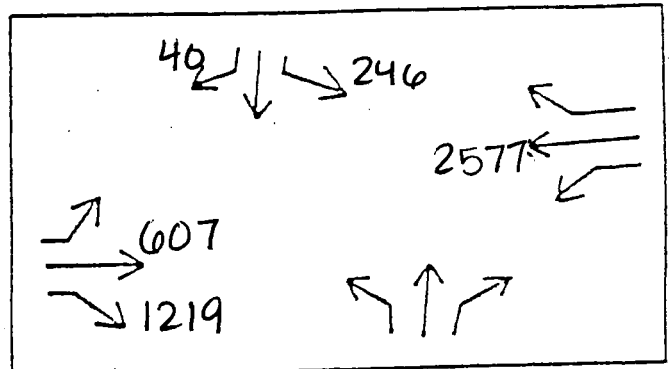
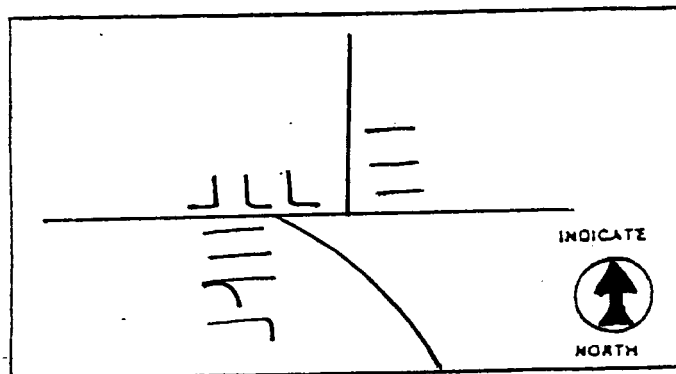
DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-3

BY JLB DATE 4-6-10

TIME _____ AM (PM)

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
—	859
—	859
—	859
304	—
303	—
548	—
548	—

Phase 2	
123	—
123	—
40	—
123	—

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
859

Phase 2
123

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
982

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

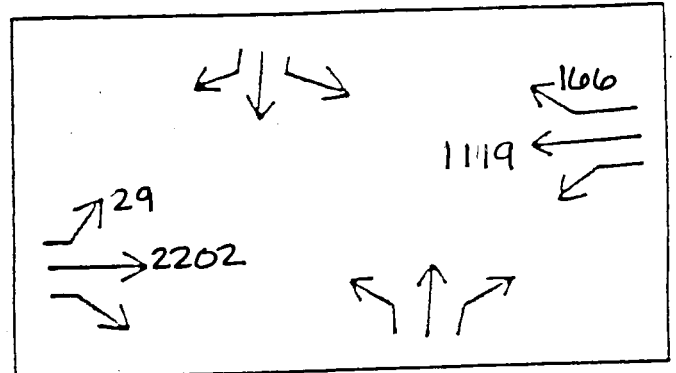
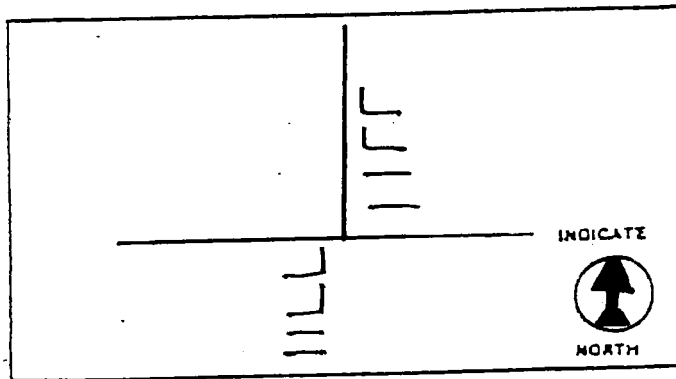
Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/SR-125 NB Ramp DIST. CO. RTE. P.M. 11/50/905
 BY JB DATE 4-6-10
 TIME AM PM

Existing + Units 1-3

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
<div> <div>14</div> <div>15</div> <div>15</div> <div>15</div> </div>	<div> <div>83</div> <div>83</div> <div>560</div> <div>559</div> </div> <div> <div>1086</div> <div>1086</div> </div>		

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
15	1,086		

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,101

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

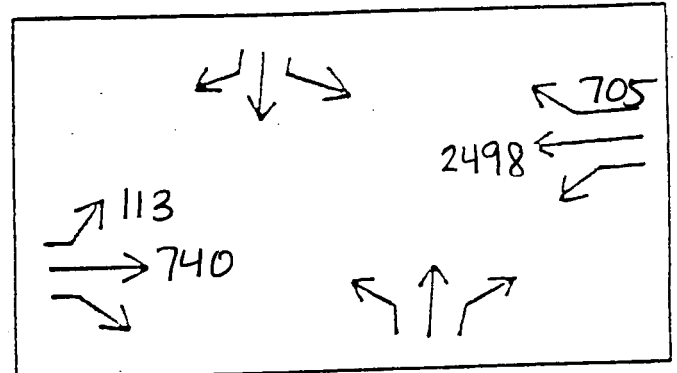
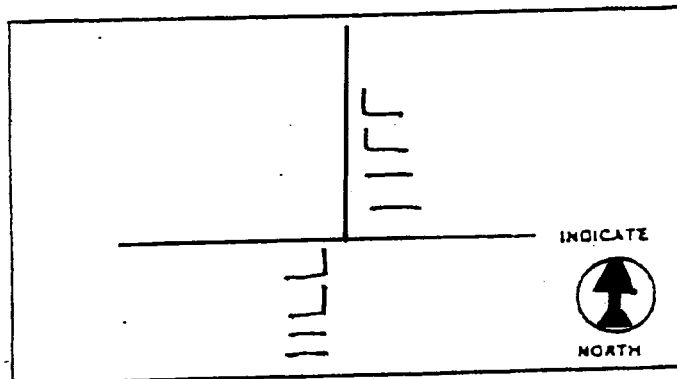
Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/SR-125 NB Ramp DIST. CO. RTE. P.M. 11/50/905
 BY JLB DATE 4-6-10
 TIME _____ AM (PM)

Existing + Units 1-3

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
56	└
57	└
57	└
57	└

Phase 2	
	└ 352
	└ 353
	└ 1249
	└ 1249
313	=
313	=

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
57

Phase 2
1,249

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,306

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / SR-905 NB
Connector

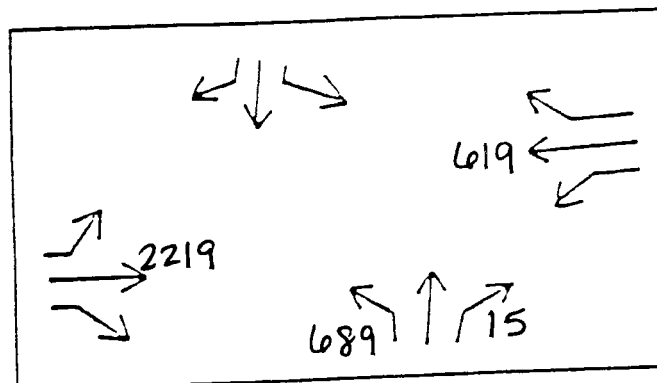
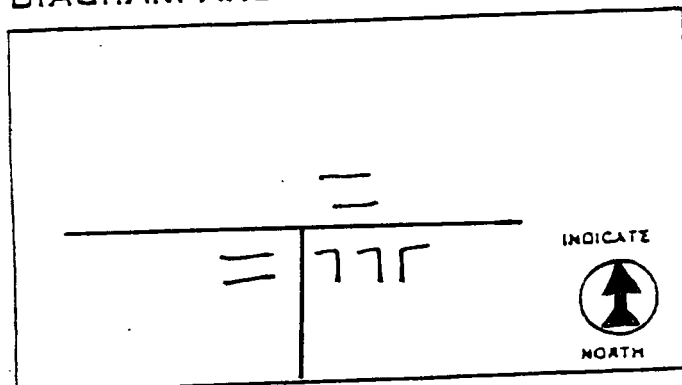
DIST. CO. RTE. P.M. 11/5D/905

BY JB DATE 4-6-10

TIME AM PM

Existing + Units 1-3

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
— 309 — 310	
1109 —	
1110 —	

Phase 2	
	777
	345
	15

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
1,110

Phase 2
345

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,455

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / SR-905 NB
Connector

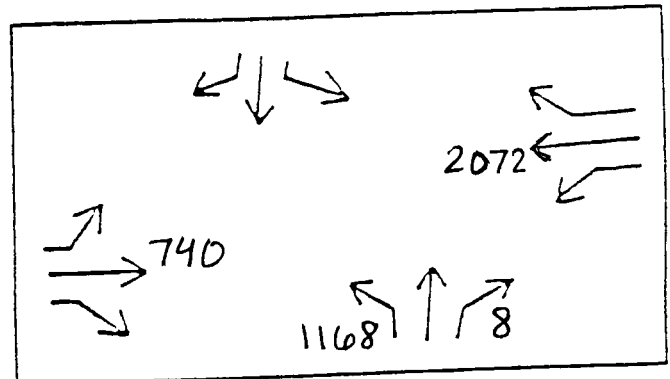
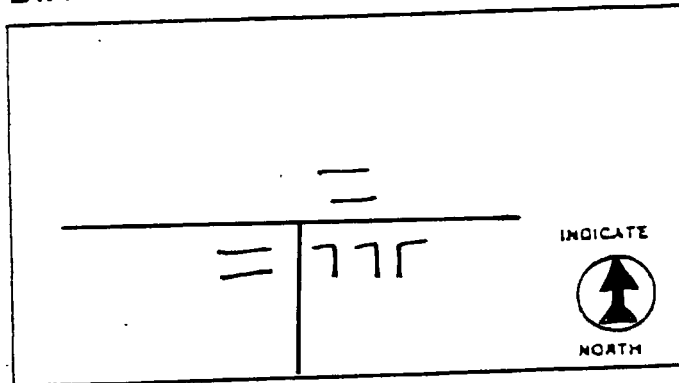
DIST. CO. RTE. P.M. 11/5D/905

BY JB DATE 4-6-10

TIME _____ AM PM

Existing + Units 1-3

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
— 1036	
— 1036	
370 —	
370 —	

Phase 2	
	584
	584
	∞

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
1,036

Phase 2
584

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,620

Is . . .

☐ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☒ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SR-905 SB
Ramp

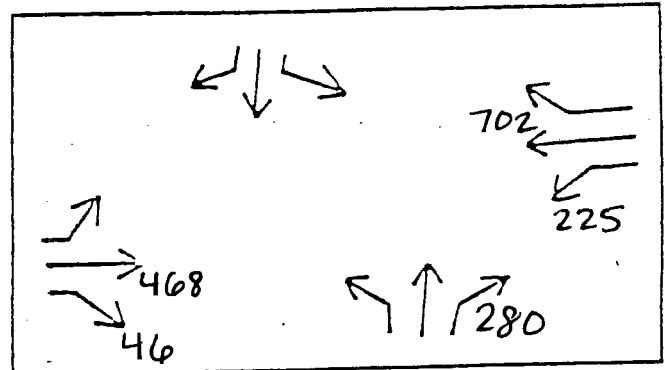
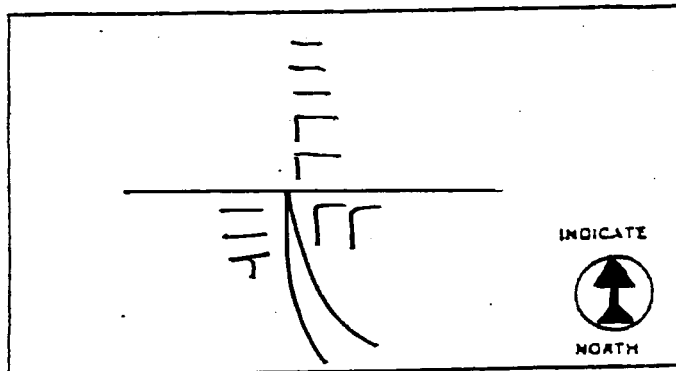
DIST. CO. RTE. P.M. 11 / SD / 905

BY DB DATE 4-6-10

TIME AM PM

Existing + Units 1-3

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1
<div style="display: flex; flex-direction: column; align-items: center;"> <div>— 112</div> <div>— 112</div> <div>— 112</div> <div>└ 113</div> <div>└ 112</div> </div>
<div style="display: flex; flex-direction: column; align-items: center;"> <div>└ 95</div> <div>└ 95</div> </div>

Phase 2
<div style="display: flex; flex-direction: column; align-items: center;"> <div>— 32</div> <div>— 32</div> <div>— 32</div> </div>
<div style="display: flex; flex-direction: column; align-items: center;"> <div>└ 171</div> <div>└ 172</div> <div>└ 171</div> </div>

Phase 3
<div style="display: flex; flex-direction: column; align-items: center;"> <div>— 90</div> <div>— 90</div> <div>— 90</div> </div>
<div style="display: flex; flex-direction: column; align-items: center;"> <div>└ 96</div> <div>└ 96</div> </div>

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
113

Phase 2
172

Phase 3
90

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
375

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SR-905 SB
Ramp

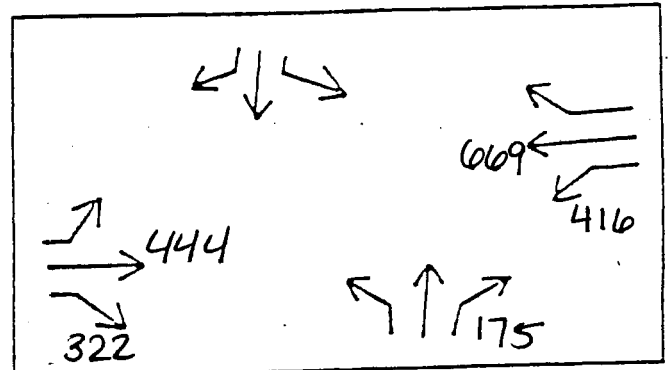
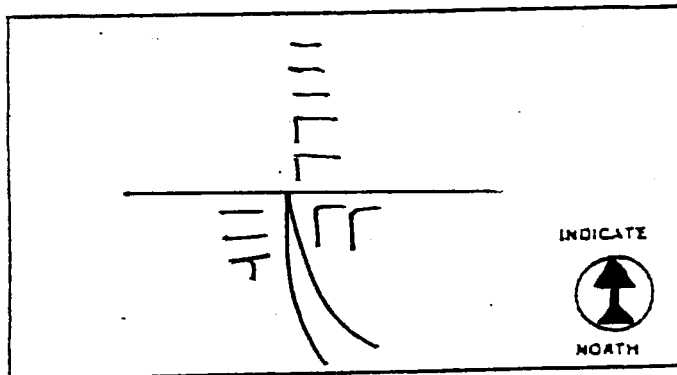
DIST. CO. RTE. P.M. 11 / SD / 905

BY DB DATE 4-6-10

TIME AM PM

Existing + Units 1-3

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1
<div style="display: flex; flex-direction: column; align-items: center;"> <div>— 69</div> <div>— 70</div> <div>— 69</div> <div>└ 208</div> <div>└ 208</div> </div>
<div style="display: flex; flex-direction: column; align-items: center;"> <div>└ 38</div> <div>└ 37</div> </div>

Phase 2
<div style="display: flex; flex-direction: column; align-items: center;"> <div>— 107</div> <div>— 108</div> <div>— 107</div> </div>
<div style="display: flex; flex-direction: column; align-items: center;"> <div>222</div> <div>222</div> <div>322</div> </div>

Phase 3
<div style="display: flex; flex-direction: column; align-items: center;"> <div>— 38</div> <div>— 38</div> <div>— 38</div> </div>
<div style="display: flex; flex-direction: column; align-items: center;"> <div>└ 38</div> <div>└ 37</div> </div>

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
208

Phase 2
322

Phase 3
38

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
568

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SE-905 NB
Ramp

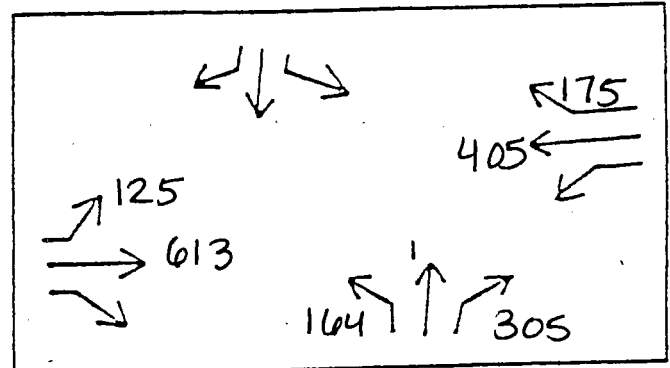
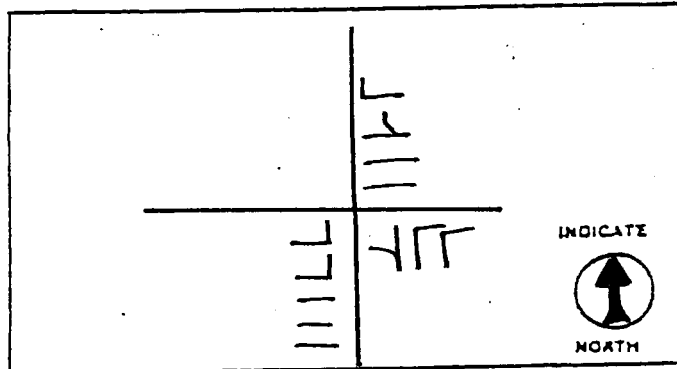
DIST. CO. RTE. P.M. 11/SD/905

BY DB DATE 4-6-10

TIME AM PM

Existing + Units 1-3

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
62	1
63	1
63	1
63	1
63	1

Phase 2	
141	1
142	1
141	1
145	1
145	1
145	1
145	1

Phase 3	
165	1
153	1
152	1

Phase 4	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
63

Phase 2
145

Phase 3
165

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
373

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SR-905 NB
Ramp

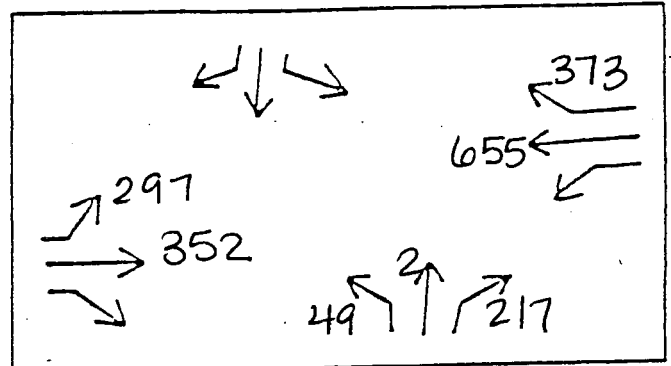
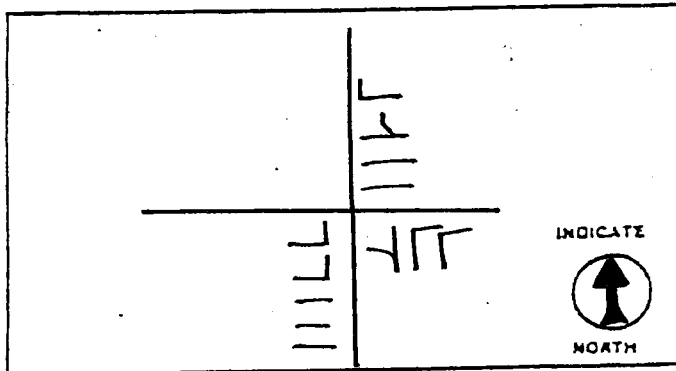
DIST. CO. RTE. P.M. 11/SD/905

BY QRB DATE 4-6-10

TIME _____ AM PM

Existing + Units 1-3

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
149	—
148	—
49	—
49	—
50	—

Phase 2	
68	—
68	—
68	—

Phase 3	
109	—
29	—
28	—

Phase 4	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
149

Phase 2
257

Phase 3
109

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
515

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

APPENDIX G

- Existing + Project Units 1-3 Arterial Synchro Analysis Worksheets
 - Existing + Project Units 1-3 Synchro Analysis Worksheets
 - Existing + Project Units 1-3 Intersection ILV Analysis

Existing + Project Units 1-3 Arterial Synchro Analysis Worksheets

Arterial Level of Service: EB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Heritage Road	II	45	28.4	75.7	104.1	0.27	9.4	F
Cactus Rd	II	45	44.7	36.1	80.8	0.51	22.6	C
Brittania Blvd	II	45	45.5	59.3	104.8	0.52	17.8	D
La Media	II	45	83.0	9.2	92.2	1.04	40.5	A
Piper Ranch Rd	II	45	44.3	17.4	61.7	0.50	29.4	B
	II	45	25.6	14.6	40.2	0.25	22.0	C
SR125 NB Ramp	II	45	14.8	2.4	17.2	0.14	28.3	B
SR905	II	45	15.0	107.3	122.3	0.14	4.1	F
Sanyo Ave	II	45	27.8	9.5	37.3	0.27	25.8	C
Enrico Fermi Dr	II	45	62.8	395.5	458.3	0.78	6.2	F
Total	II		391.9	727.0	1118.9	4.41	14.2	E

Arterial Level of Service: WB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Enrico Fermi Dr	II	45	43.2	3.7	46.9	0.49	37.7	A
Sanyo Ave	II	45	62.8	2.7	65.5	0.78	43.1	A
SR905	II	45	27.8	9.8	37.6	0.27	25.6	C
SR125 NB Ramp	II	45	15.0	15.0	30.0	0.14	16.5	E
SR125 SB	II	45	14.8	9.7	24.5	0.14	19.9	D
Piper Ranch Rd	II	45	25.6	4.8	30.4	0.25	29.1	B
La Media	II	45	44.3	11.9	56.2	0.50	32.3	B
Brittania Blvd	II	45	83.0	3.4	86.4	1.04	43.3	A
Cactus Rd	II	45	45.5	2.2	47.7	0.52	39.0	A
Heritage Road	II	45	44.7	15.9	60.6	0.51	30.2	B
Total	II		406.7	79.1	485.8	4.63	34.3	B

Arterial Level of Service: EB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Heritage Road	II	45	28.4	19.8	48.2	0.27	20.4	D
Cactus Rd	II	45	44.7	14.7	59.4	0.51	30.8	B
Brittania Blvd	II	45	45.5	10.4	55.9	0.52	33.3	B
La Media	II	45	83.0	27.0	110.0	1.04	34.0	B
Piper Ranch Rd	II	45	43.8	5.1	48.9	0.50	36.7	A
	II	45	26.2	2.1	28.3	0.25	32.0	B
SR125 NB Ramp	II	45	14.7	0.2	14.9	0.14	32.7	B
SR905	II	45	15.0	12.3	27.3	0.14	18.2	D
Sanyo Ave	II	45	27.8	1.6	29.4	0.27	32.7	B
Enrico Fermi Rd	II	45	62.8	16.1	78.9	0.78	35.8	A
Total	II		391.9	109.3	501.2	4.41	31.7	B

Arterial Level of Service: WB Otay Mesa Road
























Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Enrico Fermi Rd	II	45	43.2	195.3	238.5	0.49	7.4	F
Sanyo Ave	II	45	62.8	312.5	375.3	0.78	7.5	F
SR905	II	45	27.8	185.2	213.0	0.27	4.5	F
SR125 NB Ramp	II	45	15.0	9.4	24.4	0.14	20.3	D
SR125 SB	II	45	14.7	2.0	16.7	0.14	29.2	B
Piper Ranch Rd	II	45	26.2	3.1	29.3	0.25	30.9	B
La Media	II	45	43.8	36.1	79.9	0.50	22.4	C
Brittania Blvd	II	45	83.0	23.2	106.2	1.04	35.2	A
Cactus Rd	II	45	45.5	8.5	54.0	0.52	34.5	B
Heritage Road	II	45	44.7	45.0	89.7	0.51	20.4	D
Total	II		406.7	820.3	1227.0	4.63	13.6	E

Existing + Project Units 1-3 Synchro Analysis Worksheets

040501 - Otay Crossings

1: Otay Mesa Road & Heritage Road

Ex+Otay Crossings - Units 1-3- AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frts			0.850			0.850		0.885				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4803	1583	3433	4803	1583	1770	1649	0	1770	1863	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4803	1583	3433	4803	1583	1770	1649	0	1770	1863	2787
Satd. Flow (RTOR)			163			84		41				58
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	105	3260	194	43	1187	75	54	22	73	250	37	52
Adj. Flow (vph)	118	3663	218	48	1334	84	61	25	82	281	42	58
Lane Group Flow (vph)	118	3663	218	48	1334	84	61	107	0	281	42	58
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot			Prot		pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases			2			6						4
Total Split (s)	15.2	122.0	22.5	8.5	115.3	27.0	22.5	22.5	0.0	27.0	27.0	15.2
Act Effct Green (s)	11.3	125.3	155.4	4.5	116.8	143.8	26.1	12.9		23.0	9.8	21.1
Actuated g/C Ratio	0.06	0.70	0.86	0.02	0.65	0.80	0.14	0.07		0.13	0.05	0.12
v/c Ratio	0.55	1.10	0.16	0.56	0.43	0.07	0.24	0.69		1.24	0.41	0.15
Control Delay	91.6	75.7	0.9	106.6	15.9	0.9	70.2	70.9		200.6	93.5	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	91.6	75.7	0.9	106.6	15.9	0.9	70.2	70.9		200.6	93.5	10.2
LOS	F	E	A	F	B	A	E	E		F	F	B
Approach Delay		72.1			18.0			70.6			159.9	
Approach LOS		E			B			E			F	

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.24

Intersection Signal Delay: 64.5










Intersection LOS: E

























Intersection Capacity Utilization 90.2%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 1: Otay Mesa Road & Heritage Road

								
ø2	ø3	ø4	ø5	ø6	ø7	ø8	ø9	ø10
122 s	22.5 s	27 s	15.2 s	115.3 s	27 s	22.5 s		

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Fr _t			0.850			0.850		0.917				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4803	1583	3433	4803	1583	1770	1708	0	1770	1863	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4803	1583	3433	4803	1583	1770	1708	0	1770	1863	2787
Satd. Flow (RTOR)			157			204		28				87
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	189	1772	152	61	2786	234	133	58	73	224	65	220
Adj. Flow (vph)	195	1827	157	63	2872	241	137	60	75	231	67	227
Lane Group Flow (vph)	195	1827	157	63	2872	241	137	135	0	231	67	227
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot			Prot		pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases			2			6						4
Total Split (s)	16.0	117.4	27.4	11.1	112.5	31.0	27.4	20.5	0.0	31.0	24.1	16.0
Act Effct Green (s)	12.0	113.6	142.0	7.0	108.6	134.3	28.4	14.8		25.7	12.2	24.2
Actuated g/C Ratio	0.07	0.64	0.80	0.04	0.61	0.76	0.16	0.08		0.15	0.07	0.14
v/c Ratio	0.84	0.59	0.12	0.46	0.98	0.19	0.48	0.80		0.90	0.52	0.50
Control Delay	109.8	19.8	0.5	95.5	45.0	0.9	74.6	94.5		108.7	94.3	31.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	109.8	19.8	0.5	95.5	45.0	0.9	74.6	94.5		108.7	94.3	31.2
LOS	F	B	A	F	D	A	E	F		F	F	C
Approach Delay		26.5			42.6			84.5			73.3	
Approach LOS		C			D			F			E	

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 177.2

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 41.4



















Intersection Capacity Utilization 92.5%

Analysis Period (min) 15























Intersection LOS: D

ICU Level of Service F

Splits and Phases: 1: Otay Mesa Road & Heritage Road

								
11.1 s	117.4 s		24.1 s	27.4 s		20.5 s	31 s	
								
16 s	112.5 s		20.5 s	31 s				

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998							0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4797	0	1770	4804	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4797	0	1770	4804	0	1770	1863	1583	1770	1863	1583
Satd. Flow (RTOR)		3			1				28			86
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	8	3782	58	57	1388	5	22	1	115	3	0	5
Adj. Flow (vph)	9	4156	64	63	1525	5	24	1	126	3	0	5
Lane Group Flow (vph)	9	4220	0	63	1530	0	24	1	126	3	0	5
Turn Type	Prot			Prot			Prot		pm+ov	Prot		pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases									8			4
Total Split (s)	8.5	134.5	0.0	15.0	141.0	0.0	10.0	22.0	15.0	8.5	20.5	8.5
Act Effct Green (s)	7.0	150.3		13.9	164.9		7.9	6.2	20.0	4.5		7.0
Actuated g/C Ratio	0.04	0.84		0.08	0.92		0.04	0.03	0.11	0.02		0.04
v/c Ratio	0.13	1.05		0.46	0.35		0.31	0.02	0.63	0.07		0.03
Control Delay	88.8	36.1		89.8	2.2		92.4	84.0	71.4	89.0		0.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Total Delay	88.8	36.1		89.8	2.2		92.4	84.0	71.4	89.0		0.4
LOS	F	D		F	A		F	F	E	F		A
Approach Delay		36.2			5.7			74.8				
Approach LOS		D			A			E				

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 26 (14%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.05

Intersection Signal Delay: 29.1









Intersection Capacity Utilization 94.8%

Analysis Period (min) 15



























Intersection LOS: C

ICU Level of Service F

Splits and Phases: 2: Otay Mesa Road & Cactus Rd

			
ø1	ø2	ø4	ø8
15 s	134.5 s	10 s	20.5 s
			
ø6			
8.5 s	141 s	8.5 s	22 s

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.999				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4790	0	1770	4799	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4790	0	1770	4799	0	1770	1863	1583	1770	1863	1583
Satd. Flow (RTOR)		3			1				97			54
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	6	2315	58	115	3436	16	43	1	119	4	0	15
Adj. Flow (vph)	6	2362	59	117	3506	16	44	1	121	4	0	15
Lane Group Flow (vph)	6	2421	0	117	3522	0	44	1	121	4	0	15
Turn Type	Prot			Prot			Prot		pm+ov	Prot		pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases									8			4
Total Split (s)	14.5	104.9	0.0	28.5	118.9	0.0	20.1	32.1	28.5	14.5	26.5	14.5
Act Effct Green (s)	6.7	131.8		27.2	157.1		11.1	8.7	37.1	6.5		6.7
Actuated g/C Ratio	0.04	0.73		0.15	0.87		0.06	0.05	0.21	0.04		0.04
v/c Ratio	0.09	0.69		0.44	0.84		0.40	0.01	0.30	0.06		0.14
Control Delay	86.2	14.7		68.5	8.5		90.7	82.0	16.4	85.5		2.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Total Delay	86.2	14.7		68.5	8.5		90.7	82.0	16.4	85.5		2.5
LOS	F	B		E	A		F	F	B	F		A
Approach Delay		14.9			10.5			36.5				
Approach LOS		B			B			D				

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 139 (77%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 12.9









Intersection LOS: B

Intersection Capacity Utilization 89.1%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 2: Otay Mesa Road & Cactus Rd

 ø2	 ø1	 ø3	 ø4
104.9 s	28.5 s	20.1 s	26.5 s
 ø5	 ø6	 ø7	 ø8
14.5 s	118.9 s	14.5 s	32.1 s

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↓	↑↑↑	↓	↑
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frnt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4803	1583	1770	4803	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4803	1583	1770	4803	3433	1583
Satd. Flow (RTOR)		420				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	3081	669	48	1281	176	48
Adj. Flow (vph)	3625	787	56	1507	207	56
Lane Group Flow (vph)	3625	787	56	1507	207	56
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Total Split (s)	70.6	36.3	13.1	83.7	36.3	13.1
Act Effct Green (s)	84.5	106.3	8.5	94.9	17.1	28.8
Actuated g/C Ratio	0.70	0.89	0.07	0.79	0.14	0.24
v/c Ratio	1.07	0.54	0.45	0.40	0.42	0.15
Control Delay	59.3	2.3	54.1	3.4	48.4	33.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.3	2.3	54.1	3.4	48.4	33.6
LOS	E	A	D	A	D	C
Approach Delay	49.1			5.2	45.2	
Approach LOS	D			A	D	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.07

Intersection Signal Delay: 38.0

Intersection LOS: D

Intersection Capacity Utilization 71.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Otay Mesa Road & Britannia Blvd

→ ø2	↖ ø1
70.6 s	13.1 s
← ø6	↗ ø8
83.7 s	36.3 s

040501 - Otay Crossings

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↓	↑↑↑	↓	↑
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4803	1583	1770	4803	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4803	1583	1770	4803	3433	1583
Satd. Flow (RTOR)		309				3
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1997	287	59	2948	587	49
Adj. Flow (vph)	2147	309	63	3170	631	53
Lane Group Flow (vph)	2147	309	63	3170	631	53
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Total Split (s)	95.2	60.6	24.2	119.4	60.6	24.2
Act Effct Green (s)	116.8	159.9	12.1	132.9	39.1	55.2
Actuated g/C Ratio	0.65	0.89	0.07	0.74	0.22	0.31
v/c Ratio	0.69	0.21	0.53	0.89	0.85	0.11
Control Delay	10.4	0.8	96.3	23.2	78.8	40.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.4	0.8	96.3	23.2	78.8	40.2
LOS	B	A	F	C	E	D
Approach Delay	9.2			24.7	75.8	
Approach LOS	A			C	E	

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 170 (94%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 24.2

Intersection LOS: C




























Intersection Capacity Utilization 80.4%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: Otay Mesa Road & Britannia Blvd

↙ ø1	→ ø2	
24.2 s	95.2 s	
← ø6		↗ ø8
119.4 s		60.6 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  					 		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Frts			0.850		0.995			0.939			0.913	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4803	1583	1770	4788	0	1770	1690	0	3433	1659	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4803	1583	1770	4788	0	1770	1690	0	3433	1659	0
Satd. Flow (RTOR)			230		7			17			48	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	71	2504	233	87	1223	45	75	24	16	76	52	71
Adj. Flow (vph)	75	2636	245	92	1287	47	79	25	17	80	55	75
Lane Group Flow (vph)	75	2636	245	92	1334	0	79	42	0	80	130	0
Turn Type	Prot		pm+ov	Prot			Prot			Prot		
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Total Split (s)	11.8	66.8	13.5	17.0	72.0	0.0	13.5	25.0	0.0	11.2	22.7	0.0
Act Effct Green (s)	7.7	71.6	84.6	11.6	77.7		9.0	10.1		12.7	11.8	
Actuated g/C Ratio	0.06	0.60	0.70	0.10	0.65		0.08	0.08		0.11	0.10	
v/c Ratio	0.66	0.92	0.21	0.54	0.43		0.59	0.27		0.22	0.63	
Control Delay	40.7	9.2	0.4	62.9	11.9		72.1	39.9		49.2	45.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	40.7	9.2	0.4	62.9	11.9		72.1	39.9		49.2	45.3	
LOS	D	A	A	E	B		E	D		D	D	
Approach Delay		9.2			15.2			60.9			46.8	
Approach LOS		A			B			E			D	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 87 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 14.0









Intersection LOS: B

Intersection Capacity Utilization 77.8%























ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 4: Otay Mesa Road & La Media

			
ø1	ø2	ø3	ø4
17 s	66.8 s	13.5 s	22.7 s
			
ø6	ø5	ø8	ø7
72 s	11.8 s	25 s	11.2 s

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Frts			0.850		0.997			0.922			0.903	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4803	1583	1770	4793	0	1770	1670	0	3433	1648	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4803	1583	1770	4793	0	1770	1670	0	3433	1648	0
Satd. Flow (RTOR)			249		3			25			54	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	70	1775	239	55	2530	46	158	22	24	69	63	116
Adj. Flow (vph)	73	1849	249	57	2635	48	165	23	25	72	66	121
Lane Group Flow (vph)	73	1849	249	57	2683	0	165	48	0	72	187	0
Turn Type	Prot		pm+ov	Prot			Prot			Prot		
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Total Split (s)	15.0	71.0	25.9	22.0	78.0	0.0	25.9	30.1	0.0	16.9	21.1	0.0
Act Effct Green (s)	9.9	77.5	99.4	15.4	83.1		17.9	12.1		23.1	15.2	
Actuated g/C Ratio	0.07	0.55	0.71	0.11	0.59		0.13	0.09		0.16	0.11	
v/c Ratio	0.58	0.70	0.21	0.29	0.94		0.73	0.29		0.13	0.82	
Control Delay	81.2	27.0	1.4	59.7	36.1		76.8	39.8		47.7	70.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	81.2	27.0	1.4	59.7	36.1		76.8	39.8		47.7	70.1	
LOS	F	C	A	E	D		E	D		D	E	
Approach Delay		25.9			36.6			68.5			63.9	
Approach LOS		C			D			E			E	

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 34.8









Intersection Capacity Utilization 86.3%

Analysis Period (min) 15












Intersection LOS: C

ICU Level of Service E

Splits and Phases: 4: Otay Mesa Road & La Media

			
ø2	ø1	ø4	ø3
71 s	22 s	21.1 s	25.9 s
			
ø6	ø5	ø8	ø7
78 s	15 s	30.1 s	16.9 s

040501 - Otay Crossings

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.91	0.91	0.97	0.91
Frt			0.997			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	5070	0	3433	1441
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	3539	5070	0	3433	1441
Satd. Flow (RTOR)			5			20
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	106	2531	1338	31	26	18
Adj. Flow (vph)	119	2844	1503	35	29	20
Lane Group Flow (vph)	119	2844	1538	0	29	20
Turn Type	Prot				custom	
Protected Phases	5	2	6			
Permitted Phases					4	4
Total Split (s)	22.0	64.0	42.0	0.0	26.0	26.0
Act Effct Green (s)	15.8	75.2	57.6		6.8	6.8
Actuated g/C Ratio	0.18	0.84	0.64		0.08	0.08
v/c Ratio	0.38	0.96	0.47		0.11	0.16
Control Delay	35.5	17.4	4.8		39.4	19.6
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	35.5	17.4	4.8		39.4	19.6
LOS	D	B	A		D	B
Approach Delay		18.1	4.8		31.3	
Approach LOS		B	A		C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 9 (10%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 13.7





Intersection LOS: B

Intersection Capacity Utilization 80.0%












ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 5: Otay Mesa Road & Piper Ranch Rd

	ø2		ø4
64 s		26 s	
	ø6		ø5
42 s		22 s	

040501 - Otay Crossings

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.91	0.91	0.97	0.91
Fr _t			0.999		0.929	0.850
Flt Protected	0.950				0.974	
Satd. Flow (prot)	1770	3539	5080	0	3270	1441
Flt Permitted	0.950				0.974	
Satd. Flow (perm)	1770	3539	5080	0	3270	1441
Satd. Flow (RTOR)			2		51	51
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	17	1915	2535	24	52	94
Adj. Flow (vph)	18	2082	2755	26	57	102
Lane Group Flow (vph)	18	2082	2781	0	108	51
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Total Split (s)	13.5	64.5	51.0	0.0	25.5	25.5
Act Effct Green (s)	6.9	74.5	69.7		7.5	7.5
Actuated g/C Ratio	0.08	0.83	0.77		0.08	0.08
v/c Ratio	0.13	0.71	0.71		0.34	0.31
Control Delay	40.4	5.1	3.1		24.8	16.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	40.4	5.1	3.1		24.8	16.4
LOS	D	A	A		C	B
Approach Delay		5.4	3.1		22.1	
Approach LOS		A	A		C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 4.6





Intersection LOS: A

Intersection Capacity Utilization 62.9%


















ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 5: Otay Mesa Road & Piper Ranch Rd

	ø2			ø4
64.5 s			25.5 s	
	ø5		ø6	
13.5 s		51 s		

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	0.86	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Fr't		0.994	0.850									0.850
Flt Protected										0.950		
Satd. Flow (prot)	0	4777	1362	0	5085	0	0	0	0	3433	0	1583
Flt Permitted										0.950		
Satd. Flow (perm)	0	4777	1362	0	5085	0	0	0	0	3433	0	1583
Satd. Flow (RTOR)		10	708									30
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	1491	931	0	1165	0	0	0	0	740	0	145
Adj. Flow (vph)	0	1734	1083	0	1355	0	0	0	0	860	0	169
Lane Group Flow (vph)	0	1811	1006	0	1355	0	0	0	0	860	0	169
Turn Type			Free							Prot		custom
Protected Phases		2			6					4		
Permitted Phases			Free									4
Total Split (s)	0.0	49.8	0.0	0.0	49.8	0.0	0.0	0.0	0.0	40.2	0.0	40.2
Act Effct Green (s)		53.1	90.0		53.1					28.9		28.9
Actuated g/C Ratio		0.59	1.00		0.59					0.32		0.32
v/c Ratio		0.64	0.74		0.45					0.78		0.32
Control Delay		14.6	2.3		9.7					32.5		19.2
Queue Delay		0.0	0.0		0.0					0.0		0.0
Total Delay		14.6	2.3		9.7					32.5		19.2
LOS		B	A		A					C		B
Approach Delay		10.2			9.7							
Approach LOS		B			A							

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 2 (2%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 14.0




Intersection LOS: B

Intersection Capacity Utilization 64.2%













ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 6: Otay Mesa Road & SR125 SB

 Ø2	 Ø4
49.8 s	40.2 s
 Ø6	
49.8 s	

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑					↑↑		↑
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	0.86	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frts		0.925	0.850									0.850
Flt Protected										0.950		
Satd. Flow (prot)	0	4445	1362	0	5085	0	0	0	0	3433	0	1583
Flt Permitted										0.950		
Satd. Flow (perm)	0	4445	1362	0	5085	0	0	0	0	3433	0	1583
Satd. Flow (RTOR)		612	663									3
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	607	1219	0	2577	0	0	0	0	246	0	40
Adj. Flow (vph)	0	660	1325	0	2801	0	0	0	0	267	0	43
Lane Group Flow (vph)	0	1322	663	0	2801	0	0	0	0	267	0	43
Turn Type			Free							Prot		custom
Protected Phases		2			6					4		
Permitted Phases			Free									4
Total Split (s)	0.0	64.5	0.0	0.0	64.5	0.0	0.0	0.0	0.0	25.5	0.0	25.5
Act Effct Green (s)		69.6	90.0		69.6					12.4		12.4
Actuated g/C Ratio		0.77	1.00		0.77					0.14		0.14
v/c Ratio		0.37	0.49		0.71					0.56		0.19
Control Delay		2.1	0.9		2.0					40.7		33.6
Queue Delay		0.0	0.0		0.2					0.0		0.0
Total Delay		2.1	0.9		2.2					40.7		33.6
LOS		A	A		A					D		C
Approach Delay		1.7			2.2							
Approach LOS		A			A							

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 56 (62%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 4.3




Intersection LOS: A















Intersection Capacity Utilization 79.1%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 6: Otay Mesa Road & SR125 SB

 ø2	 ø4
64.5 s	25.5 s
 ø6	
64.5 s	

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	 	 	 	 		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				191		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	29	2202	1119	166	0	0
Adj. Flow (vph)	33	2531	1286	191	0	0
Lane Group Flow (vph)	33	2531	1286	191	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Total Split (s)	18.0	90.0	72.0	72.0	0.0	0.0
Act Effct Green (s)	21.8	90.0	65.8	65.8		
Actuated g/C Ratio	0.24	1.00	0.73	0.73		
v/c Ratio	0.04	0.72	0.50	0.09		
Control Delay	18.0	2.4	15.0	4.9		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	18.0	2.4	15.0	4.9		
LOS	B	A	B	A		
Approach Delay		2.6	13.7			
Approach LOS		A	B			

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 62 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 6.6

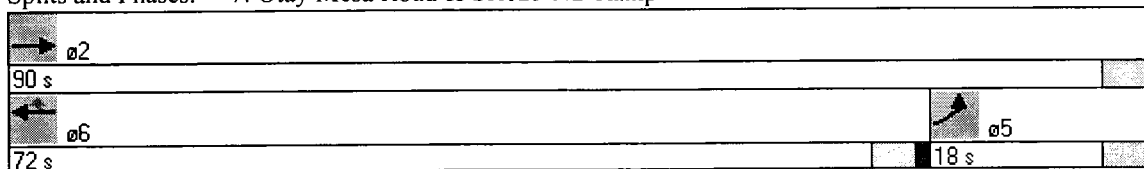
Intersection LOS: A

Intersection Capacity Utilization 64.2%















ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp



040501 - Otay Crossings

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	 	 	 	 		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frnt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				633		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	113	740	2498	705	0	0
Adj. Flow (vph)	124	813	2745	775	0	0
Lane Group Flow (vph)	124	813	2745	775	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Total Split (s)	17.0	90.0	73.0	73.0	0.0	0.0
Act Effct Green (s)	9.0	90.0	73.0	73.0		
Actuated g/C Ratio	0.10	1.00	0.81	0.81		
v/c Ratio	0.36	0.23	0.96	0.33		
Control Delay	45.3	0.2	9.4	0.2		
Queue Delay	0.0	0.0	13.7	0.0		
Total Delay	45.3	0.2	23.1	0.2		
LOS	D	A	C	A		
Approach Delay		6.1	18.0			
Approach LOS		A	B			

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 33 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 15.5




Intersection LOS: B

Intersection Capacity Utilization 79.1%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

	ø2		
90 s			
	ø5		ø6
17 s		73 s	

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frnt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	3433	1583
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	2219	0	0	619	689	15
Adj. Flow (vph)	2580	0	0	720	801	17
Lane Group Flow (vph)	2580	0	0	720	801	17
Turn Type						Perm
Protected Phases	2			6	8	
Permitted Phases						8
Total Split (s)	44.5	0.0	0.0	44.5	45.5	45.5
Act Effct Green (s)	55.3			55.3	26.7	26.7
Actuated g/C Ratio	0.61			0.61	0.30	0.30
v/c Ratio	1.19			0.33	0.79	0.04
Control Delay	107.3			9.8	29.8	13.7
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	107.3			9.8	29.8	13.7
LOS	F			A	C	B
Approach Delay	107.3			9.8	29.5	
Approach LOS	F			A	C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 58 (64%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.19

Intersection Signal Delay: 74.8

Intersection LOS: E

Intersection Capacity Utilization 87.7%







ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 8: Otay Mesa Road & SR905

→ ø2	
44.5 s	
← ø6	↖ ø8
44.5 s	45.5 s

040501 - Otay Crossings

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘↘	↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frft						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	3433	1583
Satd. Flow (RTOR)						9
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	740	0	0	2072	1168	8
Adj. Flow (vph)	813	0	0	2277	1284	9
Lane Group Flow (vph)	813	0	0	2277	1284	9
Turn Type						Perm
Protected Phases	2			6	8	
Permitted Phases						8
Total Split (s)	39.0	0.0	0.0	39.0	51.0	51.0
Act Effct Green (s)	42.9			42.9	39.1	39.1
Actuated g/C Ratio	0.48			0.48	0.43	0.43
v/c Ratio	0.48			1.35	0.86	0.01
Control Delay	12.3			185.2	29.9	6.1
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	12.3			185.2	29.9	6.1
LOS	B			F	C	A
Approach Delay	12.3			185.2	29.8	
Approach LOS	B			F	C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 56 (62%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.35

Intersection Signal Delay: 107.3




Intersection LOS: F

Intersection Capacity Utilization 97.3%











ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 8: Otay Mesa Road & SR905

	ø2		
39 s			
	ø6		
39 s			
			ø8
		51 s	

040501 - Otay Crossings

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.986				0.965	
Flt Protected			0.950		0.963	
Satd. Flow (prot)	3490	0	1770	1863	3358	0
Flt Permitted			0.950		0.963	
Satd. Flow (perm)	3490	0	1770	1863	3358	0
Satd. Flow (RTOR)	16				12	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1925	200	24	606	32	10
Adj. Flow (vph)	2406	250	30	758	40	12
Lane Group Flow (vph)	2656	0	30	758	52	0
Turn Type			Prot			
Protected Phases	2		1	6	3	
Permitted Phases						
Total Split (s)	45.2	0.0	21.5	66.7	23.3	0.0
Act Effct Green (s)	75.5		7.4	80.7	7.0	
Actuated g/C Ratio	0.84		0.08	0.90	0.08	
v/c Ratio	0.91		0.21	0.45	0.19	
Control Delay	9.5		41.4	2.7	33.1	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	9.5		41.4	2.7	33.1	
LOS	A		D	A	C	
Approach Delay	9.5			4.1	33.1	
Approach LOS	A			A	C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 8.6





Intersection LOS: A

Intersection Capacity Utilization 69.6%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

 ø1	 ø2	 ø3
21.5 s	45.2 s	23.3 s
 ø6		
66.7 s		

040501 - Otay Crossings

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑	↖↗	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.989				0.996	
Flt Protected			0.950		0.954	
Satd. Flow (prot)	3500	0	1770	1863	3434	0
Flt Permitted			0.950		0.954	
Satd. Flow (perm)	3500	0	1770	1863	3434	0
Satd. Flow (RTOR)	13				3	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	692	54	12	1946	185	5
Adj. Flow (vph)	854	67	15	2402	228	6
Lane Group Flow (vph)	921	0	15	2402	234	0
Turn Type			Prot			
Protected Phases	2		1	6	3	
Permitted Phases						
Total Split (s)	48.4	0.0	17.5	65.9	24.1	0.0
Act Effct Green (s)	68.0		6.7	70.4	11.6	
Actuated g/C Ratio	0.76		0.07	0.78	0.13	
v/c Ratio	0.35		0.11	1.65	0.53	
Control Delay	1.6		40.4	312.5	40.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	1.6		40.4	312.5	40.2	
LOS	A		D	F	D	
Approach Delay	1.6			310.8	40.2	
Approach LOS	A			F	D	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.65

Intersection Signal Delay: 213.3

Intersection LOS: F

Intersection Capacity Utilization 114.5%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

↘ ø1	→ ø2	↖ ø3
17.5 s	48.4 s	24.1 s
← ø6		
65.9 s		

040501 - Otay Crossings

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖	↗	↖	↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.999					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1861	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1861	0	1770	1863	1770	1583
Satd. Flow (RTOR)						234
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1969	11	54	493	55	216
Adj. Flow (vph)	2316	13	64	580	65	254
Lane Group Flow (vph)	2329	0	64	580	65	254
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	65.5	0.0	21.0	86.5	33.5	33.5
Act Effct Green (s)	62.2		9.2	73.0	9.8	9.8
Actuated g/C Ratio	0.68		0.10	0.80	0.11	0.11
v/c Ratio	1.83		0.37	0.39	0.34	0.67
Control Delay	395.5		46.0	3.7	43.6	16.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	395.5		46.0	3.7	43.6	16.5
LOS	F		D	A	D	B
Approach Delay	395.5			7.9	22.0	
Approach LOS	F			A	C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 90.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.83

Intersection Signal Delay: 283.5

Intersection LOS: F

Intersection Capacity Utilization 124.3%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

↖ ø1	→ ø2	
21 s	65.5 s	
← ø6		↗ ø8
86.5 s		33.5 s

040501 - Otay Crossings

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↙	↗	↙	↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.999					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1861	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1861	0	1770	1863	1770	1583
Satd. Flow (RTOR)						103
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	676	4	198	1985	36	95
Adj. Flow (vph)	735	4	215	2158	39	103
Lane Group Flow (vph)	739	0	215	2158	39	103
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	60.3	0.0	25.2	85.5	34.5	34.5
Act Effct Green (s)	60.7		16.8	81.5	8.2	8.2
Actuated g/C Ratio	0.62		0.17	0.83	0.08	0.08
v/c Ratio	0.64		0.71	1.39	0.26	0.45
Control Delay	16.1		50.9	195.3	46.2	15.4
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	16.1		50.9	195.3	46.2	15.4
LOS	B		D	F	D	B
Approach Delay	16.1			182.2	23.8	
Approach LOS	B			F	C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 97.7

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.39

Intersection Signal Delay: 137.6

Intersection LOS: F

Intersection Capacity Utilization 114.5%

ICU Level of Service H

















Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Rd

↙ ø1	→ ø2	
25.2 s	60.3 s	
← ø6		↖ ø8
85.5 s		34.5 s

















040501 - Otay Crossings

14: Otay Mesa Road & Alta Rd.
Ex+Otay Crossings - Units 1-3- AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	652	752	927	0	211	0	248	1	0	0	4	168
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	709	817	1008	0	229	0	270	1	0	0	4	183
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	2534	229	271	187								
Volume Left (vph)	709	0	270	0								
Volume Right (vph)	1008	0	0	183								
Hadj (s)	-0.15	0.03	0.23	-0.55								
Departure Headway (s)	5.9	6.8	7.2	6.7								
Degree Utilization, x	4.18	0.43	0.54	0.35								
Capacity (veh/h)	612	492	479	500								
Control Delay (s)	1447.8	14.9	18.2	13.3								
Approach Delay (s)	1447.8	14.9	18.2	13.3								
Approach LOS	F	B	C	B								
Intersection Summary												
Delay			1142.4									
HCM Level of Service			F									
Intersection Capacity Utilization			181.2%		ICU Level of Service					H		
Analysis Period (min)			15									


















040501 - Otay Crossings

14: Otay Mesa Road & Alta Rd
Ex+Otay Crossings - Units 1-3- PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	101	322	372	0	703	0	879	0	0	0	1	726
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	116	370	428	0	808	0	1010	0	0	0	1	834
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	914	808	1010	836								
Volume Left (vph)	116	0	1010	0								
Volume Right (vph)	428	0	0	834								
Hadj (s)	-0.22	0.03	0.23	-0.57								
Departure Headway (s)	9.3	9.6	9.8	9.0								
Degree Utilization, x	2.37	2.15	2.75	2.09								
Capacity (veh/h)	394	382	377	407								
Control Delay (s)	645.4	549.4	815.3	518.9								
Approach Delay (s)	645.4	549.4	815.3	518.9								
Approach LOS	F	F	F	F								
Intersection Summary												
Delay			642.1									
HCM Level of Service			F									
Intersection Capacity Utilization			189.3%		ICU Level of Service					H		
Analysis Period (min)			15									


















040501 - Otay Crossings

17: Airway Rd & La Media
Ex+Otay Crossings - Units 1-3- AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	9	84	60	30	80	49	57	101	3	209	255	46
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	10	93	67	33	89	54	63	112	3	232	283	51
Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2							
Volume Total (vph)	170	177	179	232	334							
Volume Left (vph)	10	33	63	232	0							
Volume Right (vph)	67	54	3	0	51							
Hadj (s)	-0.19	-0.11	0.16	0.53	0.01							
Departure Headway (s)	6.0	6.0	6.1	6.4	5.9							
Degree Utilization, x	0.28	0.29	0.30	0.41	0.54							
Capacity (veh/h)	550	545	543	545	598							
Control Delay (s)	11.3	11.5	11.6	12.6	14.4							
Approach Delay (s)	11.3	11.5	11.6	13.7								
Approach LOS	B	B	B	B								
Intersection Summary												
Delay			12.6									
HCM Level of Service			B									
Intersection Capacity Utilization			52.9%			ICU Level of Service				A		
Analysis Period (min)			15									




















040501 - Otay Crossings

17: Airway Rd & La Media
Ex+Otay Crossings - Units 1-3- PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	38	145	83	97	116	119	72	180	8	143	171	23
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Hourly flow rate (vph)	38	146	84	98	117	120	73	182	8	144	173	23
Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2							
Volume Total (vph)	269	335	263	144	196							
Volume Left (vph)	38	98	73	144	0							
Volume Right (vph)	84	120	8	0	23							
Hadj (s)	-0.12	-0.12	0.14	0.53	0.04							
Departure Headway (s)	6.6	6.4	7.0	7.7	7.1							
Degree Utilization, x	0.49	0.60	0.51	0.31	0.39							
Capacity (veh/h)	491	515	470	435	457							
Control Delay (s)	15.7	18.4	16.9	12.8	13.4							
Approach Delay (s)	15.7	18.4	16.9	13.2								
Approach LOS	C	C	C	B								
Intersection Summary												
Delay			16.0									
HCM Level of Service			C									
Intersection Capacity Utilization			68.5%			ICU Level of Service				C		
Analysis Period (min)			15									




















040501 - Otay Crossings

19: Airway Rd & Sanyo Ave
Ex+Otay Crossings - Units 1-3- AM











												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	14	81	91	4	111	9	31	15	3	59	121	12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	15	87	98	4	119	10	33	16	3	63	130	13
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2					
Volume Total (vph)	200	124	10	33	19	194	13					
Volume Left (vph)	15	4	0	33	0	63	0					
Volume Right (vph)	98	0	10	0	3	0	13					
Hadj (s)	-0.24	0.05	-0.67	0.53	-0.08	0.20	-0.67					
Departure Headway (s)	5.2	5.5	4.8	6.2	5.6	5.7	4.8					
Degree Utilization, x	0.29	0.19	0.01	0.06	0.03	0.30	0.02					
Capacity (veh/h)	662	618	705	542	597	603	706					
Control Delay (s)	10.2	8.6	6.6	8.4	7.5	9.9	6.7					
Approach Delay (s)	10.2	8.4		8.1		9.7						
Approach LOS	B	A		A		A						
Intersection Summary												
Delay			9.4									
HCM Level of Service			A									
Intersection Capacity Utilization			40.2%	ICU Level of Service		A						
Analysis Period (min)			15									

040501 - Otay Crossings











19: Airway Rd & Sanyo Ave
Ex+Otay Crossings - Units 1-3- PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	4	60	51	4	237	55	79	126	2	21	26	35
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	5	69	59	5	272	63	91	145	2	24	30	40
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2					
Volume Total (vph)	132	277	63	91	147	54	40					
Volume Left (vph)	5	5	0	91	0	24	0					
Volume Right (vph)	59	0	63	0	2	0	40					
Hadj (s)	-0.23	0.04	-0.67	0.53	0.02	0.26	-0.67					
Departure Headway (s)	5.7	5.7	5.0	6.5	6.0	6.4	5.5					
Degree Utilization, x	0.21	0.44	0.09	0.16	0.24	0.10	0.06					
Capacity (veh/h)	594	610	689	525	569	515	597					
Control Delay (s)	10.2	11.8	7.2	9.5	9.7	8.9	7.7					
Approach Delay (s)	10.2	10.9		9.6		8.4						
Approach LOS	B	B		A		A						
Intersection Summary												
Delay			10.1									
HCM Level of Service			B									
Intersection Capacity Utilization			34.1%	ICU Level of Service		A						
Analysis Period (min)			15									











040501 - Otay Crossings

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	86	46	5	91	33	9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	96	51	6	101	37	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			147		233	121
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			147		233	121
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		95	99
cM capacity (veh/h)			1435		752	930
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	147	107	37	10		
Volume Left	0	6	37	0		
Volume Right	51	0	0	10		
cSH	1700	1435	752	930		
Volume to Capacity	0.09	0.00	0.05	0.01		
Queue Length 95th (ft)	0	0	4	1		
Control Delay (s)	0.0	0.4	10.0	8.9		
Lane LOS		A	B	A		
Approach Delay (s)	0.0	0.4	9.8			
Approach LOS			A			
Intersection Summary						
Average Delay			1.7			
Intersection Capacity Utilization			18.9%		ICU Level of Service	A
Analysis Period (min)			15			











040501 - Otay Crossings

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	56	29	26	204	82	10
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	64	33	30	234	94	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			98		375	81
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			98		375	81
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		85	99
cM capacity (veh/h)			1496		613	979
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	98	264	94	11		
Volume Left	0	30	94	0		
Volume Right	33	0	0	11		
cSH	1700	1496	613	979		
Volume to Capacity	0.06	0.02	0.15	0.01		
Queue Length 95th (ft)	0	2	14	1		
Control Delay (s)	0.0	1.0	11.9	8.7		
Lane LOS		A	B	A		
Approach Delay (s)	0.0	1.0	11.6			
Approach LOS			B			
Intersection Summary						
Average Delay			3.2			
Intersection Capacity Utilization			30.1%		ICU Level of Service	A
Analysis Period (min)			15			

























040501 - Otay Crossings

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	31	37	4	85	23	11
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	40	47	5	109	29	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			87		183	63
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			87		183	63
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		96	99
cM capacity (veh/h)			1509		804	1001
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	87	114	29	14		
Volume Left	0	5	29	0		
Volume Right	47	0	0	14		
cSH	1700	1509	804	1001		
Volume to Capacity	0.05	0.00	0.04	0.01		
Queue Length 95th (ft)	0	0	3	1		
Control Delay (s)	0.0	0.4	9.6	8.6		
Lane LOS		A	A	A		
Approach Delay (s)	0.0	0.4	9.3			
Approach LOS			A			
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			17.7%		ICU Level of Service	A
Analysis Period (min)			15			

040501 - Otay Crossings

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	13	36	1	153	55	1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	15	43	1	182	65	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)				1314		
pX, platoon unblocked						
vC, conflicting volume			58		221	37
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			58		221	37
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		91	100
cM capacity (veh/h)			1546		766	1035
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	58	183	65	1		
Volume Left	0	1	65	0		
Volume Right	43	0	0	1		
cSH	1700	1546	766	1035		
Volume to Capacity	0.03	0.00	0.09	0.00		
Queue Length 95th (ft)	0	0	7	0		
Control Delay (s)	0.0	0.1	10.1	8.5		
Lane LOS		A	B	A		
Approach Delay (s)	0.0	0.1	10.1			
Approach LOS			B			
Intersection Summary						
Average Delay			2.2			
Intersection Capacity Utilization			18.8%		ICU Level of Service	A
Analysis Period (min)			15			

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frst		0.925	0.850			0.850		0.944			0.959	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1637	1504	1770	1863	1583	1770	3341	0	1770	3394	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1637	1504	1770	1863	1583	1770	3341	0	1770	3394	0
Satd. Flow (RTOR)		12	22			1		106			35	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	3	11	27	1	2	1	59	253	173	1	75	28
Adj. Flow (vph)	4	12	34	1	2	1	74	316	188	1	94	35
Lane Group Flow (vph)	4	24	22	1	2	1	74	504	0	1	129	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Total Split (s)	9.5	21.0	21.0	9.0	20.5	20.5	12.3	21.0	0.0	49.0	57.7	0.0
Act Effct Green (s)	6.8	8.4	8.4	6.2	8.3	8.3	10.9	45.8		7.5	40.0	
Actuated g/C Ratio	0.10	0.13	0.13	0.09	0.13	0.13	0.17	0.78		0.11	0.68	
v/c Ratio	0.02	0.11	0.10	0.01	0.01	0.00	0.25	0.19		0.01	0.06	
Control Delay	18.3	12.1	9.4	19.0	15.5	14.0	13.0	4.5		18.0	8.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	18.3	12.1	9.4	19.0	15.5	14.0	13.0	4.5		18.0	8.2	
LOS	B	B	A	B	B	B	B	A		B	A	
Approach Delay		11.4			16.0			5.6			8.2	
Approach LOS		B			B			A			A	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 58.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.25

Intersection Signal Delay: 6.5









Intersection Capacity Utilization 29.2%























Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service A

Splits and Phases: 23: Airway Rd & Enrico Fermi Dr

 ø1	 ø2	 ø3	 ø4
49 s	21 s	9 s	21 s
 ø6	 ø5	 ø7	 ø8
57.7 s	12.3 s	9.5 s	20.5 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Fr _t		0.850	0.850					0.999			0.938	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1770	1504	1504	1863	1863	1863	1770	3536	0	1863	3320	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1770	1504	1504	1863	1863	1863	1770	3536	0	1863	3320	0
Satd. Flow (RTOR)		862	862					1			106	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	2	0	13	0	0	0	70	166	1	0	124	87
Adj. Flow (vph)	2	0	16	0	0	0	85	202	1	0	151	106
Lane Group Flow (vph)	2	8	8	0	0	0	85	203	0	0	257	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Total Split (s)	15.5	27.5	27.5	15.5	27.5	27.5	20.9	31.5	0.0	15.5	26.1	0.0
Act Effct Green (s)	6.2	6.1	6.1				11.3	87.1			71.5	
Actuated g/C Ratio	0.07	0.07	0.07				0.13	0.97			0.79	
v/c Ratio	0.02	0.01	0.01				0.38	0.06			0.10	
Control Delay	39.0	0.0	0.0				40.7	0.4			2.3	
Queue Delay	0.0	0.0	0.0				0.0	0.0			0.0	
Total Delay	39.0	0.0	0.0				40.7	0.4			2.3	
LOS	D	A	A				D	A			A	
Approach Delay		4.3						12.3			2.3	
Approach LOS		A						B			A	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.38

Intersection Signal Delay: 7.5









Intersection LOS: A

Intersection Capacity Utilization 23.4%

















ICU Level of Service A

Analysis Period (min) 15

















Splits and Phases: 23: Airway Rd & Enrico Fermi Rd

 ø1	 ø2	 ø3	 ø4
15.5 s	31.5 s	15.5 s	27.5 s
 ø6	 ø5	 ø7	 ø8
26.1 s	20.9 s	15.5 s	27.5 s

040501 - Otay Crossings

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	5	2	0	10	2	93	0	9	2	236	34	4
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	6	2	0	11	2	107	0	10	2	271	39	5
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	8	121	13	315								
Volume Left (vph)	6	11	0	271								
Volume Right (vph)	0	107	2	5								
Hadj (s)	0.18	-0.48	0.01	0.21								
Departure Headway (s)	5.0	4.2	4.5	4.4								
Degree Utilization, x	0.01	0.14	0.02	0.39								
Capacity (veh/h)	661	791	749	789								
Control Delay (s)	8.0	7.9	7.6	10.2								
Approach Delay (s)	8.0	7.9	7.6	10.2								
Approach LOS	A	A	A	B								
Intersection Summary												
Delay			9.5									
HCM Level of Service			A									
Intersection Capacity Utilization			34.7%		ICU Level of Service					A		
Analysis Period (min)			15									

040501 - Otay Crossings

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	5	10	0	9	3	121	0	61	1	178	161	10
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	6	12	0	11	4	149	0	75	1	220	199	12
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	19	164	77	431								
Volume Left (vph)	6	11	0	220								
Volume Right (vph)	0	149	1	12								
Hadj (s)	0.10	-0.50	0.12	0.17								
Departure Headway (s)	5.5	4.7	5.0	4.6								
Degree Utilization, x	0.03	0.21	0.11	0.55								
Capacity (veh/h)	580	700	674	754								
Control Delay (s)	8.6	8.9	8.6	13.2								
Approach Delay (s)	8.6	8.9	8.6	13.2								
Approach LOS	A	A	A	B								
Intersection Summary												
Delay			11.5									
HCM Level of Service			B									
Intersection Capacity Utilization			40.7%		ICU Level of Service					A		
Analysis Period (min)			15									

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↘↙	↑↑↑		↗↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	0.91	0.97	0.91	1.00	0.88
Frt	0.986					0.850
Flt Protected			0.950			
Satd. Flow (prot)	5014	0	3433	5085	0	2787
Flt Permitted			0.950			
Satd. Flow (perm)	5014	0	3433	5085	0	2787
Satd. Flow (RTOR)	19					940
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	468	46	225	702	0	280
Adj. Flow (vph)	514	51	247	771	0	308
Lane Group Flow (vph)	565	0	247	771	0	308
Turn Type			Prot			custom
Protected Phases	2		1	6		
Permitted Phases						8
Total Split (s)	33.0	0.0	25.0	58.0	0.0	32.0
Act Effct Green (s)	60.3		11.7	76.0		6.0
Actuated g/C Ratio	0.67		0.13	0.84		0.07
v/c Ratio	0.17		0.55	0.18		0.29
Control Delay	5.7		40.2	1.1		0.7
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	5.7		40.2	1.1		0.7
LOS	A		D	A		A
Approach Delay	5.7			10.6		
Approach LOS	A			B		

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 66 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.55

Intersection Signal Delay: 7.5

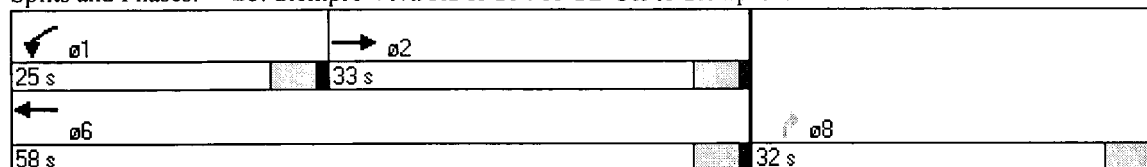
Intersection LOS: A

Intersection Capacity Utilization 26.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 28: Siempre Viva Rd & SR905 SB Off to Siempre Viva EB



28: Siempre Viva Road & SR905 SB Off Ramp to Siempre Viva EB

040501 - Otay Crossings

Ex+Otay Crossings - Units 1-3- PM

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↘↙	↑↑↑		↗↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	0.91	0.97	0.91	1.00	0.88
Frt	0.937					0.850
Flt Protected			0.950			
Satd. Flow (prot)	4765	0	3433	5085	0	2787
Flt Permitted			0.950			
Satd. Flow (perm)	4765	0	3433	5085	0	2787
Satd. Flow (RTOR)	214					1005
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	444	322	416	669	0	175
Adj. Flow (vph)	522	379	489	787	0	206
Lane Group Flow (vph)	901	0	489	787	0	206
Turn Type			Prot			custom
Protected Phases	2		1	6		
Permitted Phases						8
Total Split (s)	32.8	0.0	28.7	61.5	0.0	28.5
Act Effct Green (s)	47.3		24.7	76.0		6.0
Actuated g/C Ratio	0.53		0.27	0.84		0.07
v/c Ratio	0.35		0.52	0.18		0.18
Control Delay	9.6		25.6	1.3		0.4
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	9.6		25.6	1.3		0.4
LOS	A		C	A		A
Approach Delay	9.6			10.6		
Approach LOS	A			B		

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 29 (32%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 9.3

Intersection LOS: A







Intersection Capacity Utilization 34.3%







ICU Level of Service A

























Analysis Period (min) 15

Splits and Phases: 28: Siempre Viva Road & SR905 SB Off Ramp to Siempre Viva EB

→ ø2	↙ ø1	
32.8 s	28.7 s	
← ø6		↗ ø8
61.5 s		28.5 s

							
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		↑↑↑	↑↑↑			↑	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Volume (veh/h)	0	748	563	0	0	364	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	
Hourly flow rate (vph)	0	860	647	0	0	418	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type					None		
Median storage veh							
Upstream signal (ft)		281	733				
pX, platoon unblocked					0.98		
vC, conflicting volume	647				934	216	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	647				900	216	
tC, single (s)	4.1				6.8	6.9	
tC, 2 stage (s)							
tF (s)	2.2				3.5	3.3	
p0 queue free %	100				100	47	
cM capacity (veh/h)	934				274	789	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	287	287	287	216	216	216	418
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	418
cSH	1700	1700	1700	1700	1700	1700	789
Volume to Capacity	0.17	0.17	0.17	0.13	0.13	0.13	0.53
Queue Length 95th (ft)	0	0	0	0	0	0	79
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	14.6
Lane LOS							B
Approach Delay (s)	0.0			0.0			14.6
Approach LOS							B
Intersection Summary							
Average Delay			3.2				
Intersection Capacity Utilization			40.1%		ICU Level of Service		A
Analysis Period (min)			15				

							
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		↑↑↑	↑↑↑			↑	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Volume (veh/h)	0	619	709	0	0	376	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	
Hourly flow rate (vph)	0	666	762	0	0	404	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type					None		
Median storage veh							
Upstream signal (ft)		225	412				
pX, platoon unblocked	0.96				0.96	0.96	
vC, conflicting volume	762				984	254	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	675				905	147	
tC, single (s)	4.1				6.8	6.9	
tC, 2 stage (s)							
tF (s)	2.2				3.5	3.3	
p0 queue free %	100				100	52	
cM capacity (veh/h)	878				266	841	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	222	222	222	254	254	254	404
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	404
cSH	1700	1700	1700	1700	1700	1700	841
Volume to Capacity	0.13	0.13	0.13	0.15	0.15	0.15	0.48
Queue Length 95th (ft)	0	0	0	0	0	0	66
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	13.2
Lane LOS							B
Approach Delay (s)	0.0			0.0			13.2
Approach LOS							B
Intersection Summary							
Average Delay			2.9				
Intersection Capacity Utilization			43.6%		ICU Level of Service		A
Analysis Period (min)			15				

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  				 			
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	1.00	1.00	0.88	1.00	1.00	1.00
Frts					0.992	0.850			0.850			
Flt Protected	0.950							0.953				
Satd. Flow (prot)	3433	5085	0	0	4767	1362	0	1775	2787	0	0	0
Flt Permitted	0.950							0.953				
Satd. Flow (perm)	3433	5085	0	0	4767	1362	0	1775	2787	0	0	0
Satd. Flow (RTOR)					10	157			318			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	125	613	0	0	405	175	164	1	305	0	0	0
Adj. Flow (vph)	130	639	0	0	422	182	171	1	318	0	0	0
Lane Group Flow (vph)	130	639	0	0	447	157	0	172	318	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Total Split (s)	24.0	56.5	0.0	0.0	32.5	32.5	33.5	33.5	33.5	0.0	0.0	0.0
Act Effct Green (s)	9.0	68.1			55.1	55.1		13.9	13.9			
Actuated g/C Ratio	0.10	0.76			0.61	0.61		0.15	0.15			
v/c Ratio	0.38	0.17			0.15	0.18		0.63	0.45			
Control Delay	37.8	1.4			8.3	2.3		45.1	5.9			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	37.8	1.4			8.3	2.3		45.1	5.9			
LOS	D	A			A	A		D	A			
Approach Delay		7.6			6.7			19.7				
Approach LOS		A			A			B				

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 77 (86%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 10.5





Intersection LOS: B



















Intersection Capacity Utilization 40.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 30: Siempre Viva Rd & SR 905 NB On Ramp

 ø2	 ø8
56.5 s	33.5 s
 ø6	 ø5
32.5 s	24 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	1.00	1.00	0.88	1.00	1.00	1.00
Frts					0.984	0.850			0.850			
Flt Protected	0.950							0.954				
Satd. Flow (prot)	3433	5085	0	0	4729	1362	0	1777	2787	0	0	0
Flt Permitted	0.950							0.954				
Satd. Flow (perm)	3433	5085	0	0	4729	1362	0	1777	2787	0	0	0
Satd. Flow (RTOR)					23	317			233			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	297	352	0	0	655	373	49	2	217	0	0	0
Adj. Flow (vph)	319	378	0	0	704	401	53	2	233	0	0	0
Lane Group Flow (vph)	319	378	0	0	788	317	0	55	233	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Total Split (s)	26.1	61.5	0.0	0.0	35.4	35.4	28.5	28.5	28.5	0.0	0.0	0.0
Act Effct Green (s)	14.5	73.5			55.0	55.0		8.5	8.5			
Actuated g/C Ratio	0.16	0.82			0.61	0.61		0.09	0.09			
v/c Ratio	0.58	0.09			0.27	0.33		0.33	0.49			
Control Delay	32.3	0.9			8.9	2.2		42.7	9.1			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	32.3	0.9			8.9	2.2		42.7	9.1			
LOS	C	A			A	A		D	A			
Approach Delay		15.2			7.0			15.5				
Approach LOS		B			A			B				

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 66 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 10.9





Intersection Capacity Utilization 43.6%
























Analysis Period (min) 15

Intersection LOS: B

ICU Level of Service A

Splits and Phases: 30: Siempre Viva Road & SR905 NB On Ramp

	
ø2	ø8
61.5 s	28.5 s
	
ø5	ø6
26.1 s	35.4 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frts			0.850						0.850		0.932	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3539	0	1770	3539	1583	1770	3299	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5085	1583	1770	3539	0	1770	3539	1583	1770	3299	0
Satd. Flow (RTOR)			154						5		58	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	517	423	140	21	278	1	120	51	5	8	64	53
Adj. Flow (vph)	568	465	154	23	305	1	132	56	5	9	70	58
Lane Group Flow (vph)	568	465	154	23	306	0	132	56	5	9	128	0
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Total Split (s)	36.0	48.1	48.1	9.4	21.5	0.0	12.0	24.0	24.0	8.5	20.5	0.0
Act Effct Green (s)	27.7	40.3	40.3	5.4	11.9		8.1	18.4	18.4	4.6	7.7	
Actuated g/C Ratio	0.39	0.56	0.56	0.07	0.17		0.11	0.26	0.26	0.06	0.11	
v/c Ratio	0.83	0.16	0.16	0.19	0.52		0.66	0.06	0.01	0.09	0.32	
Control Delay	32.8	8.4	2.4	39.6	31.7		51.7	24.7	17.2	39.8	21.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	32.8	8.4	2.4	39.6	31.7		51.7	24.7	17.2	39.8	21.5	
LOS	C	A	A	D	C		D	C	B	D	C	
Approach Delay		19.3			32.2			43.0			22.7	
Approach LOS		B			C			D			C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 71.7

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 24.3









Intersection Capacity Utilization 59.7%
























Analysis Period (min) 15

Intersection LOS: C

ICU Level of Service B

Splits and Phases: 32: Siempre Viva Rd & Paseo De Las Americas

			
ø1	ø2	ø3	ø4
9.4 s	48.1 s	12 s	20.5 s
			
ø5	ø6	ø7	ø8
36 s	21.5 s	8.5 s	24 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frts			0.850		0.994				0.850		0.926	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3518	0	1770	3539	1583	1770	3277	0
Flt Permitted	0.950			0.950			0.459			0.666		
Satd. Flow (perm)	1770	5085	1583	1770	3518	0	855	3539	1583	1241	3277	0
Satd. Flow (RTOR)			67		3				8		89	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	630	136	59	30	352	14	269	120	7	6	80	78
Adj. Flow (vph)	716	155	67	34	400	16	306	136	8	7	91	89
Lane Group Flow (vph)	716	155	67	34	416	0	306	136	8	7	180	0
Turn Type	Prot		Perm	Prot			pm+pt		Perm	pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2				8		8	4		
Total Split (s)	57.0	67.3	67.3	10.6	20.9	0.0	21.6	31.0	31.0	11.1	20.5	0.0
Act Effct Green (s)	45.9	59.9	59.9	6.6	15.7		29.5	27.5	27.5	15.6	9.1	
Actuated g/C Ratio	0.44	0.58	0.58	0.06	0.15		0.29	0.27	0.27	0.14	0.09	
v/c Ratio	0.91	0.05	0.07	0.31	0.78		0.79	0.14	0.02	0.03	0.49	
Control Delay	44.7	10.8	3.2	60.0	54.9		50.0	33.0	19.1	33.0	30.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	44.7	10.8	3.2	60.0	54.9		50.0	33.0	19.1	33.0	30.1	
LOS	D	B	A	E	D		D	C	B	C	C	
Approach Delay		36.1			55.2			44.3			30.2	
Approach LOS		D			E			D			C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 103.4

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 41.6









Intersection Capacity Utilization 78.0%

Analysis Period (min) 15




















Intersection LOS: D

ICU Level of Service D




















Splits and Phases: 32: Siempre Viva Road & Paseo De Las Americas

























			
ø1	ø2	ø3	ø4
10.6 s	67.3 s	21.6 s	20.5 s
			
ø5	ø6	ø7	ø8
57 s	20.9 s	11.1 s	31 s

040501 - Otay Crossings

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	54	270	62	20	226	1	21	17	22	2	5	27
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	64	321	74	24	269	1	25	20	26	2	6	32
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)		1276										
pX, platoon unblocked												
vC, conflicting volume	270			395			704	805	198	643	841	135
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	270			395			704	805	198	643	841	135
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			98			91	93	97	99	98	96
cM capacity (veh/h)	1290			1160			291	293	810	311	279	889
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2			
Volume Total	64	214	181	24	179	91	71	8	32			
Volume Left	64	0	0	24	0	0	25	2	0			
Volume Right	0	0	74	0	0	1	26	0	32			
cSH	1290	1700	1700	1160	1700	1700	381	287	889			
Volume to Capacity	0.05	0.13	0.11	0.02	0.11	0.05	0.19	0.03	0.04			
Queue Length 95th (ft)	4	0	0	2	0	0	17	2	3			
Control Delay (s)	7.9	0.0	0.0	8.2	0.0	0.0	16.6	17.9	9.2			
Lane LOS	A			A			C	C	A			
Approach Delay (s)	1.1			0.7			16.6	11.0				
Approach LOS							C	B				
Intersection Summary												
Average Delay			2.7									
Intersection Capacity Utilization			32.8%				ICU Level of Service		A			
Analysis Period (min)			15									

040501 - Otay Crossings

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	39	80	20	17	261	5	51	15	0	1	19	52
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	43	88	22	19	287	5	56	16	0	1	21	57
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)		1290			1303							
pX, platoon unblocked												
vC, conflicting volume	292			110			433	514	55	465	523	146
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	292			110			433	514	55	465	523	146
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			99			87	96	100	100	95	93
cM capacity (veh/h)	1266			1478			440	441	1000	451	436	874
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2			
Volume Total	43	59	51	19	191	101	73	22	57			
Volume Left	43	0	0	19	0	0	56	1	0			
Volume Right	0	0	22	0	0	5	0	0	57			
cSH	1266	1700	1700	1478	1700	1700	440	437	874			
Volume to Capacity	0.03	0.03	0.03	0.01	0.11	0.06	0.16	0.05	0.07			
Queue Length 95th (ft)	3	0	0	1	0	0	15	4	5			
Control Delay (s)	7.9	0.0	0.0	7.5	0.0	0.0	14.8	13.7	9.4			
Lane LOS	A			A			B	B	A			
Approach Delay (s)	2.2			0.4			14.8	10.6				
Approach LOS							B	B				
Intersection Summary												
Average Delay			3.9									
Intersection Capacity Utilization			31.0%								A	
Analysis Period (min)			15									

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 				 			 			 	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frts		0.917			0.993			0.997			0.906	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	1708	0	1863	3514	0	1770	3529	0	1863	3207	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	1708	0	1863	3514	0	1770	3529	0	1863	3207	0
Satd. Flow (RTOR)		5			5			2			45	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	258	3	4	0	80	4	9	109	2	0	21	35
Adj. Flow (vph)	335	4	5	0	104	5	12	142	3	0	27	45
Lane Group Flow (vph)	335	9	0	0	109	0	12	145	0	0	72	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Total Split (s)	22.0	33.0	0.0	15.0	26.0	0.0	15.0	27.0	0.0	15.0	27.0	0.0
Act Effct Green (s)	9.7	15.9			7.2		6.6	14.5			13.1	
Actuated g/C Ratio	0.26	0.43			0.18		0.15	0.41			0.37	
v/c Ratio	0.37	0.01			0.17		0.04	0.10			0.06	
Control Delay	13.1	4.4			15.2		19.8	11.4			9.4	
Queue Delay	0.0	0.0			0.0		0.0	0.0			0.0	
Total Delay	13.1	4.4			15.2		19.8	11.4			9.4	
LOS	B	A			B		B	B			A	
Approach Delay		12.9			15.2			12.0			9.4	
Approach LOS		B			B			B			A	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 35.2

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.37

Intersection Signal Delay: 12.7









Intersection Capacity Utilization 27.9%

Analysis Period (min) 15





















Intersection LOS: B

ICU Level of Service A

Splits and Phases: 34: Siempre Viva Rd & Enrico Fermi Dr

 ø1	 ø2	 ø3	 ø4
15 s	33 s	15 s	27 s
 ø6	 ø5	 ø7	 ø8
26 s	22 s	15 s	27 s

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frts		0.872			0.953			0.998			0.855	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1624	0	1770	3373	0	1770	3532	0	1770	3026	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1624	0	1770	3373	0	1770	3532	0	1770	3026	0
Satd. Flow (RTOR)		23			11			1			809	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	48	4	22	11	23	11	146	156	2	3	4	118
Adj. Flow (vph)	50	4	23	11	24	11	152	162	2	3	4	123
Lane Group Flow (vph)	50	27	0	11	35	0	152	164	0	3	127	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Total Split (s)	13.5	26.8	0.0	13.5	26.8	0.0	24.2	36.2	0.0	13.5	25.5	0.0
Act Effct Green (s)	7.2	9.2		6.8	6.8		11.5	49.8		6.5	33.0	
Actuated g/C Ratio	0.11	0.14		0.10	0.10		0.19	0.81		0.09	0.54	
v/c Ratio	0.14	0.11		0.06	0.10		0.46	0.06		0.02	0.06	
Control Delay	25.9	13.6		28.8	20.9		23.6	5.3		29.0	0.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	25.9	13.6		28.8	20.9		23.6	5.3		29.0	0.1	
LOS	C	B		C	C		C	A		C	A	
Approach Delay		21.6			22.8			14.1			0.7	
Approach LOS		C			C			B			A	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 61.5

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.46

Intersection Signal Delay: 12.8









Intersection Capacity Utilization 30.1%

Analysis Period (min) 15












Intersection LOS: B

ICU Level of Service A

Splits and Phases: 34: Siempre Viva Road & Enrico Fermi Rd

			
ø2	ø1	ø4	ø3
26.8 s	13.5 s	25.5 s	24.2 s
			
ø5	ø6	ø8	ø7
13.5 s	26.8 s	36.2 s	13.5 s

040501 - Otay Crossings

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.996			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1855	0	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	1855	0	1770	1863
Satd. Flow (RTOR)		5	3			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	6	5	634	19	1	166
Adj. Flow (vph)	7	5	689	21	1	180
Lane Group Flow (vph)	7	5	710	0	1	180
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Total Split (s)	25.5	25.5	51.0	0.0	13.5	64.5
Act Effct Green (s)	6.5	6.5	110.3		6.2	112.7
Actuated g/C Ratio	0.05	0.05	0.95		0.05	0.97
v/c Ratio	0.08	0.06	0.40		0.01	0.10
Control Delay	27.7	18.0	2.3		27.0	0.5
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	27.7	18.0	2.3		27.0	0.5
LOS	C	B	A		C	A
Approach Delay	23.6		2.3			0.7
Approach LOS	C		A			A

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 116.1

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.40

Intersection Signal Delay: 2.2





Intersection Capacity Utilization 44.5%

Analysis Period (min) 15












Intersection LOS: A

ICU Level of Service A

Splits and Phases: 67: Paseo De La Fuente & Alta Rd.

		
ø2	ø1	
51 s	13.5 s	
		
ø6	ø8	
64.5 s	25.5 s	

040501 - Otay Crossings

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frts		0.850	0.996			
Flt Protected	0.950					
Satd. Flow (prot)	1770	1583	1855	0	1863	1863
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1583	1855	0	1863	1863
Satd. Flow (RTOR)		2	2			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	221	2	98	3	0	506
Adj. Flow (vph)	273	2	121	4	0	625
Lane Group Flow (vph)	273	2	125	0	0	625
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Total Split (s)	37.3	37.3	34.2	0.0	18.5	52.7
Act Effct Green (s)	12.7	12.7	24.8			24.8
Actuated g/C Ratio	0.28	0.28	0.54			0.54
v/c Ratio	0.56	0.00	0.12			0.62
Control Delay	18.3	10.5	6.4			11.4
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	18.3	10.5	6.4			11.4
LOS	B	B	A			B
Approach Delay	18.2		6.4			11.4
Approach LOS	B		A			B

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 45.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 12.6





Intersection Capacity Utilization 45.5%

Analysis Period (min) 15

Intersection LOS: B

ICU Level of Service A

Splits and Phases: 67: Paseo De La Fuente & Alta Rd

		
ø1	ø2	
18.5 s	34.2 s	
		
ø6	ø8	
52.7 s	37.3 s	

Existing + Project Units 1-3 Intersection ILV Analysis

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Heritage

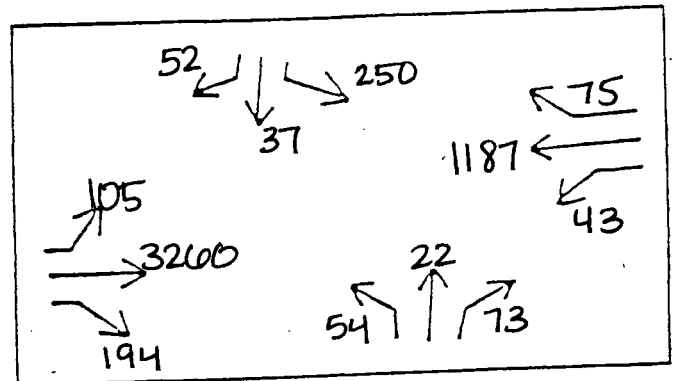
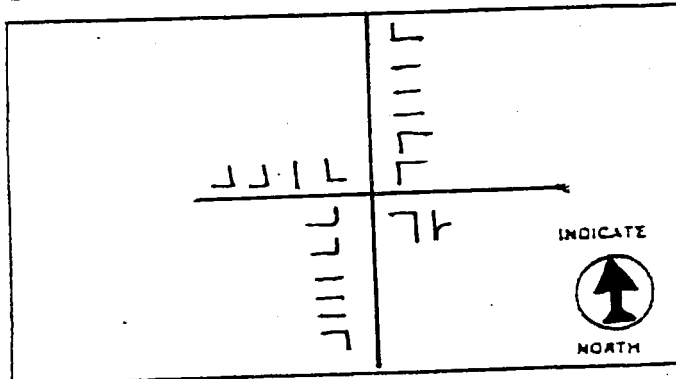
DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-3

BY JB DATE 4-6-10

TIME (AM) PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
52	22
53	21

Phase 2	
1086	25
1087	396
1087	396
144	395

Phase 3	
250	50
54	54

Phase 4	
61	95
61	95
61	95

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
53

Phase 2
1,087

Phase 3
250

Phase 4
95

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,485

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Heritage

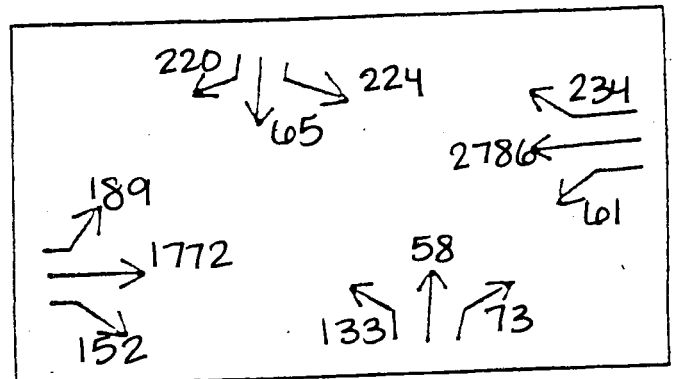
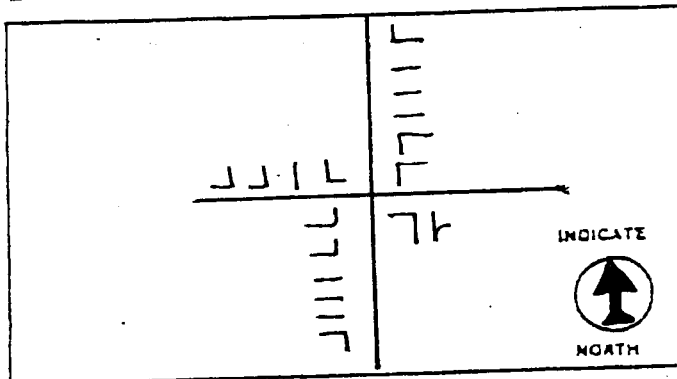
DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-3

BY JB DATE 4-6-10

TIME AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
800	31
94	30
95	

Phase 2	
134	
929	
929	
928	
590	
591	
591	
77	

Phase 3	
224	100
75	133

Phase 4	
800	65
131	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
95

Phase 2
929

Phase 3
224

Phase 4
131

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,379

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Cactus

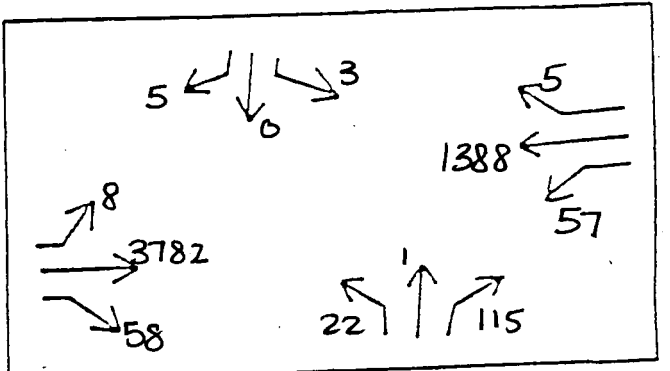
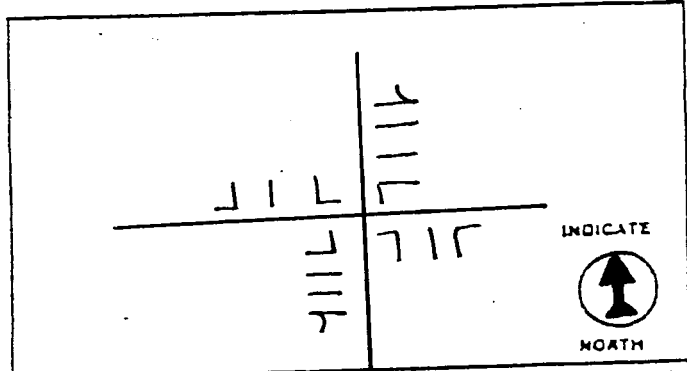
DIST. CO. RTE. P.M. 11/SD/905

BY ALB DATE 4-6-10

TIME 6 AM PM

Existing + Units 1-3

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1		Phase 2		Phase 3		Phase 4	
0	57	464	465	3		50	
8	50	1280	1280		22		65
		1280					

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
57	1,280	22	65

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,424

- Is . . .
- ☐ < 1200 ILV/hr.
 - ☒ > 1200 but < 1500 ILV/hr.
 - ☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Cactus

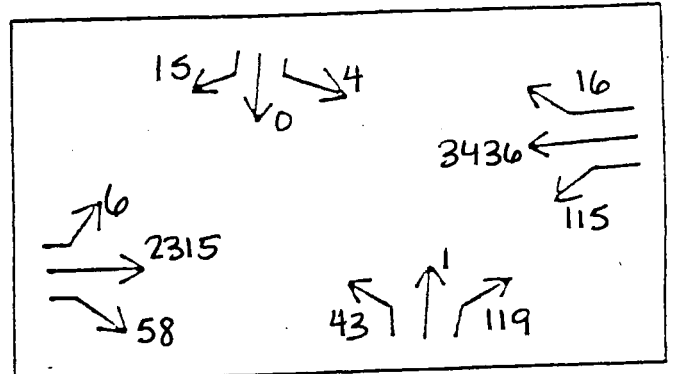
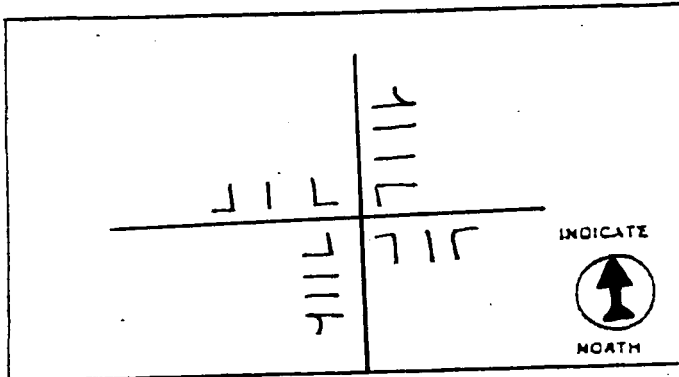
DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-3

BY LB DATE 4-6-10

TIME AM (PM)

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
9	115
6	75

Phase 2	
1150	
1151	
1151	
791	
791	
791	

Phase 3	
151	
	43

Phase 4	
151	
	44

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
115

Phase 2
1,151

Phase 3
43

Phase 4
44

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,353

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

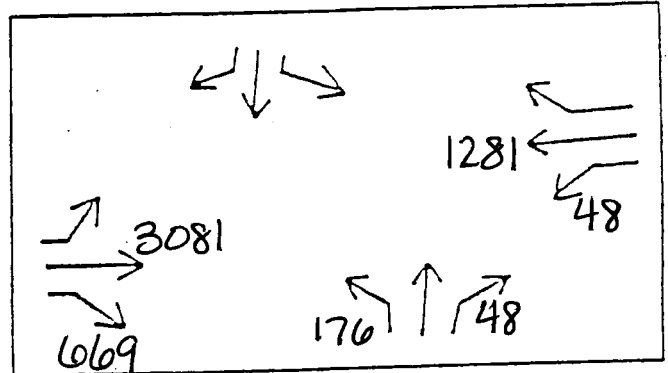
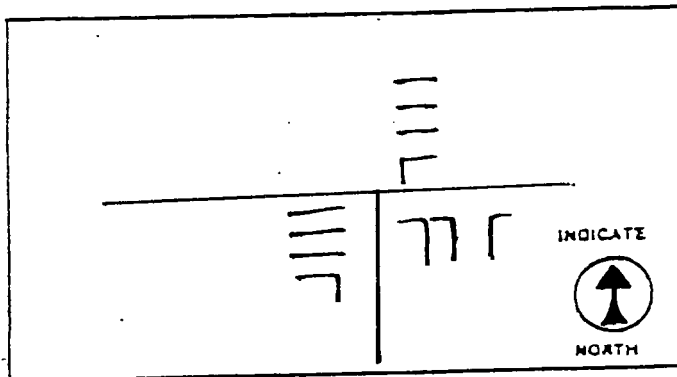
INTERSECTION Otay Mesa Rd / Britannia Blvd DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-3

BY VB DATE 4-6-10

TIME (AM) PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
— 48	
— 48	
— 48	
└ 48	

Phase 2	
— 379	
— 379	
— 379	
1027 —	
1027 —	
1027 —	
581 └	

Phase 3	
88 └	
∞	∞
∞	∞

Phase 4	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
48

Phase 2
1,027

Phase 3
88

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,163

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

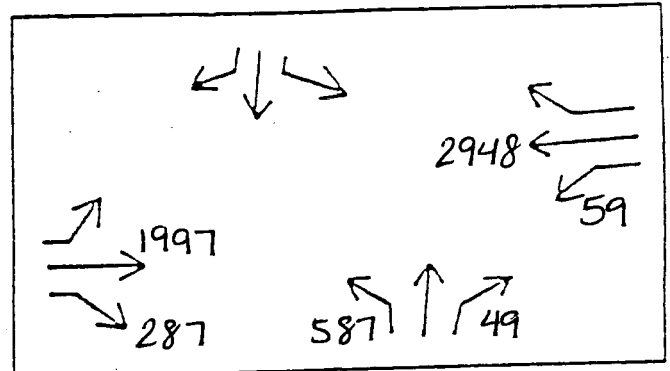
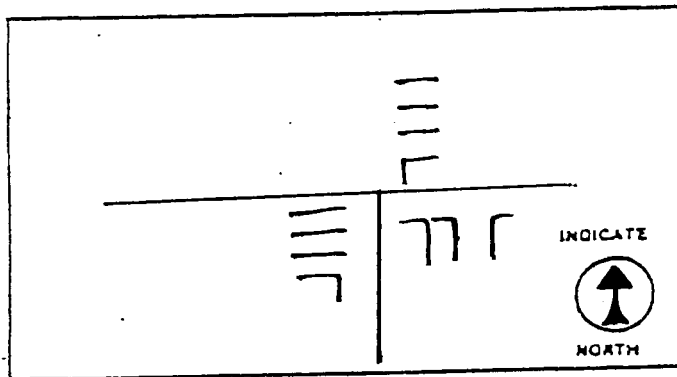
INTERSECTION Otay Mesa Rd / Britannia Blvd DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-3

BY VB DATE 4-6-10

TIME _____ AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
—	59
—	59
—	59
└	59

Phase 2	
—	923
—	924
—	924
6065	—
6066	—
6066	—
187	└

Phase 3	
100	└
	└
	└
	└
	293
	294
	49

Phase 4	
---------	--

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
59

Phase 2
924

Phase 3
294

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,277

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

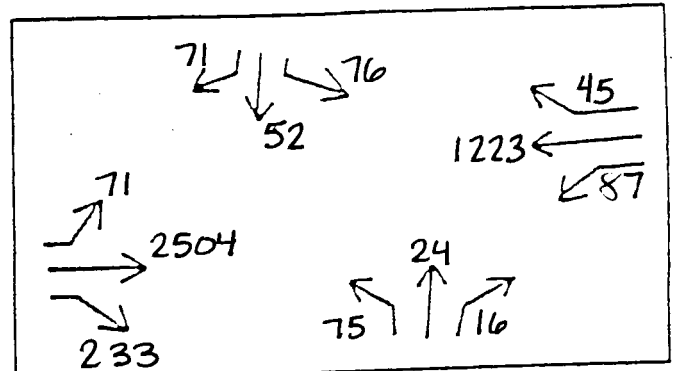
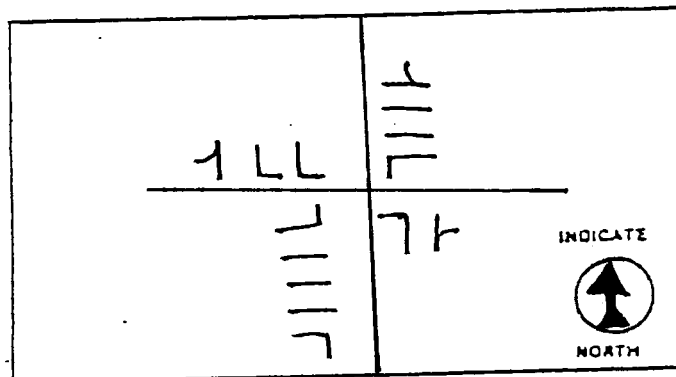
Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa Rd/La Media Rd DIST. CO. RTE. P.M. 11/SD/905
 BY JB DATE 4-6-10
 TIME (AM) PM

Existing + Units 1-3

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1		Phase 2		Phase 3		Phase 4	
			422	38		123	
			423	38			
			423	LL			
71	87	834		38	75		75
		835					
		835					
		195					

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
87	835	75	123

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,120

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

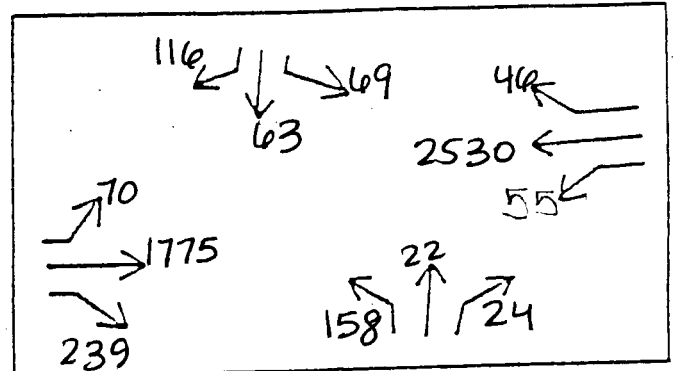
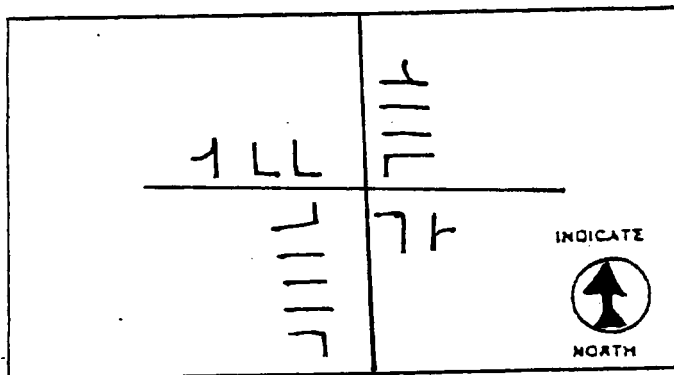
INTERSECTION Otay Mesa Rd/La Media Rd DIST. CO. RTE. P.M. 11/SD/905

BY JB DATE 4-6-10

TIME AM PM

Existing + Units 1-3

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
	55
70	

Phase 2	
	858
	859
	859
591	
592	
592	
139	

Phase 3	
158	
100	

Phase 4	
179	
	6

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
70

Phase 2
859

Phase 3
158

Phase 4
179

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,266

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / Piper Ranch

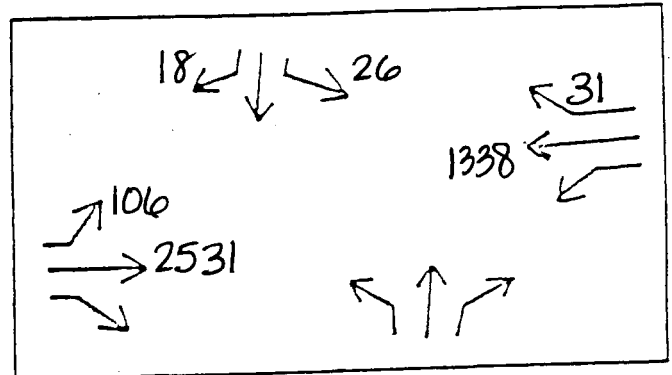
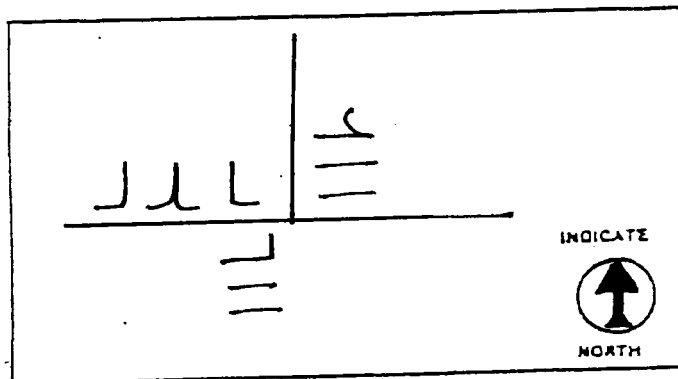
DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-3

BY JB DATE 4-6-10

TIME AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
106	└
106	—
106	—

Phase 2	
456	└
457	—
456	—
1159	—
1160	—

Phase 3	
106	└
253	—
1338	—

Phase 4	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
106

Phase 2
1,160

Phase 3
15

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,281

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Piper Ranch

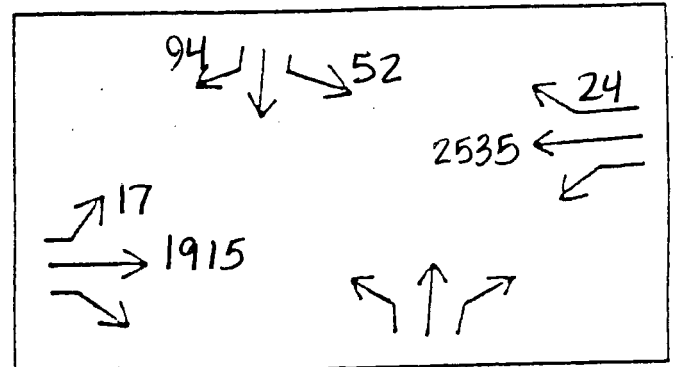
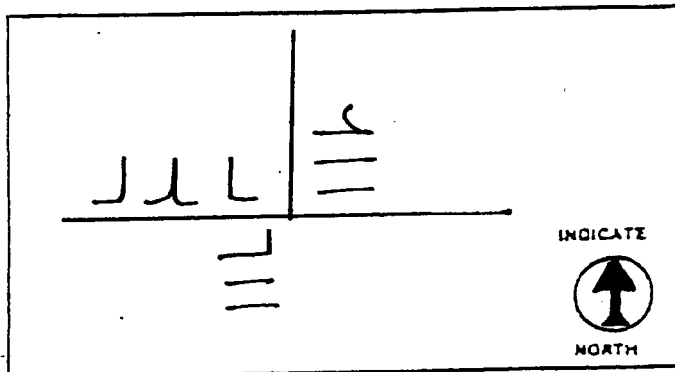
DIST. CO. RTE. P.M. 11/SD/905

BY JB DATE 4-6-10

TIME AM PM

Existing + Units 1-3

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
17	└┐
17	—
17	—

Phase 2	
940	—
941	—

Phase 3	
6	└┐
6	—
6	—

Phase 4	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
17

Phase 2
941

Phase 3
49

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,007

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / SR-125 SB Ramp

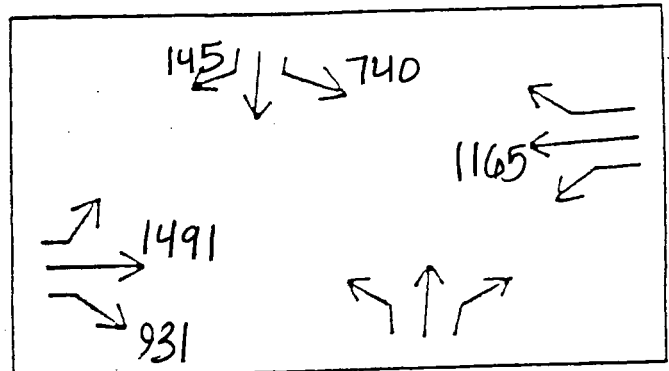
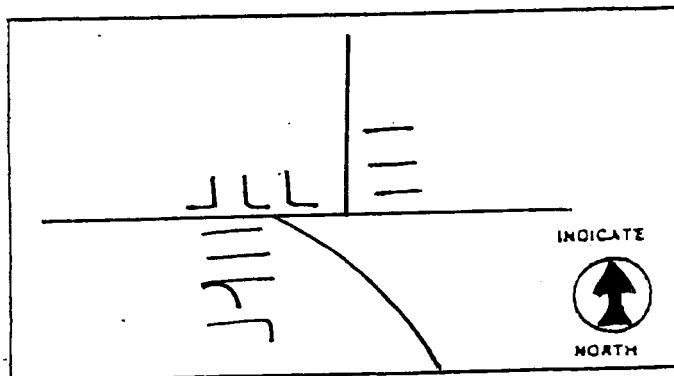
DIST. CO. RTE. P.M. 11/SD/905

BY DLB DATE 4-6-10

TIME (AM) PM

Existing + Units 1-3

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
<div> <div>388</div> <div>389</div> <div>388</div> </div> <div> <div>513</div> <div>513</div> <div>513</div> <div>513</div> </div>	<div> <div>145</div> <div>370</div> <div>370</div> </div> <div> <div>370</div> </div>		

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
513	370		

TOTAL OPERATING LEVEL (ILV/hr):

Σ
883

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / SR-125 SB Ramp

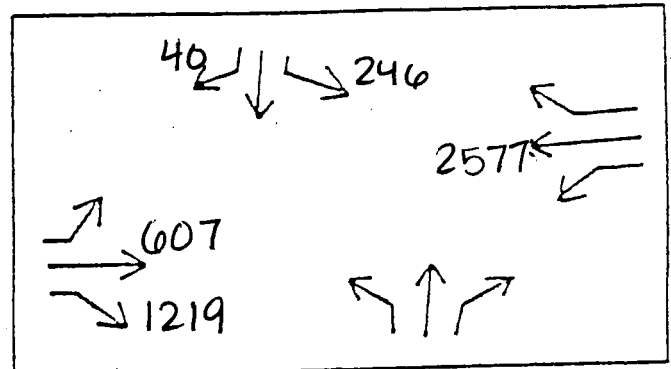
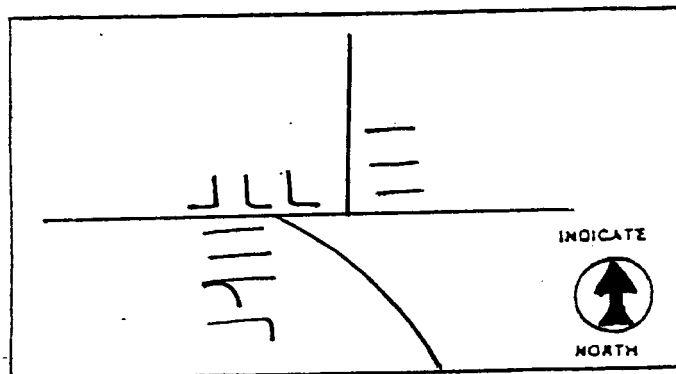
DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-3

BY JLB DATE 4-6-10

TIME _____ AM (PM)

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
Through	859
Through	859
Through	859
Right Turn	304
Right Turn	303
Right Turn	548
Right Turn	548

Phase 2	
Left Turn	40
Through	123
Through	123
Through	123

Phase 3	

Phase 4	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
859

Phase 2
123

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
982

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

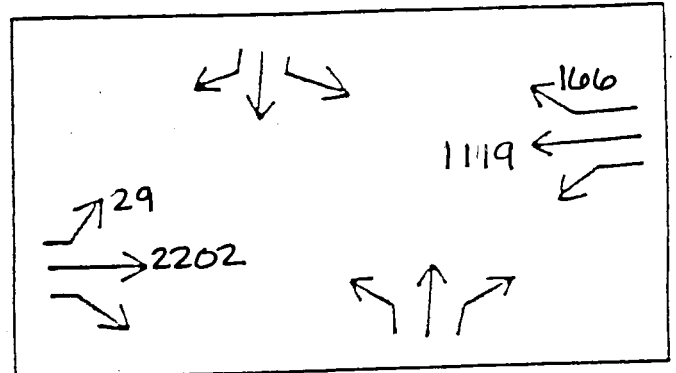
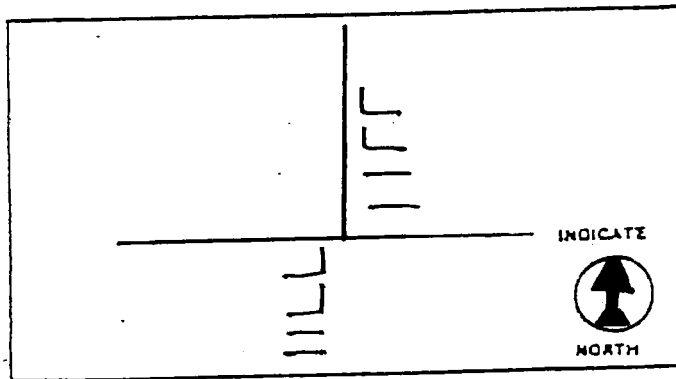
INTERSECTION Otay Mesa/SR-125 NB Ramp DIST. CO. RTE. P.M. 11/50/905

BY JB DATE 4-6-10

TIME AM PM

Existing + Units 1-3

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
<div> <div>14</div> <div>15</div> <div>15</div> <div>15</div> </div>	<div> <div>83</div> <div>83</div> <div>560</div> <div>559</div> </div> <div> <div>1086</div> <div>1086</div> </div>		

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
15	1,086		

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,101

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

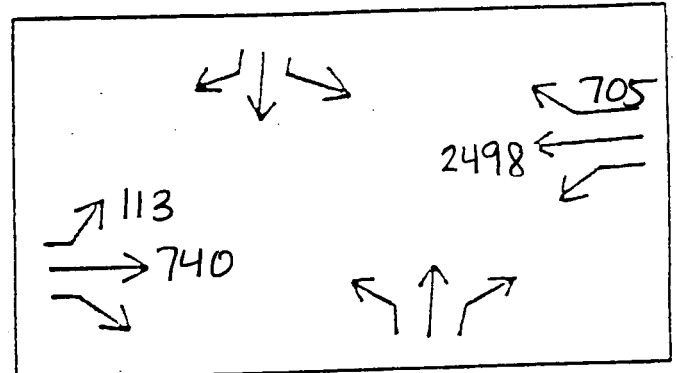
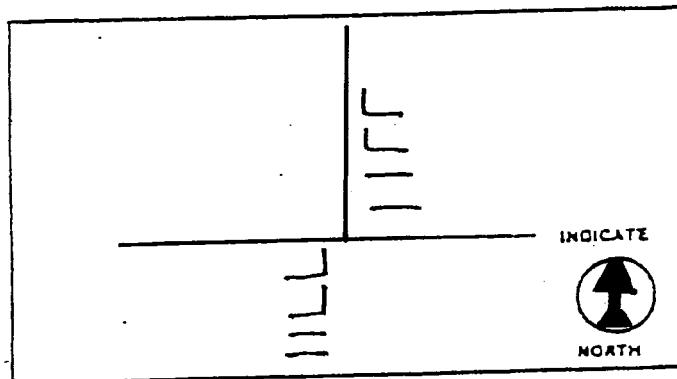
Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/SR-125 NB Ramp DIST. CO. RTE. P.M. 11/50/905
 BY JLB DATE 4-6-10
 TIME _____ AM (PM)

Existing + Units 1-3

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
56	└
57	└
57	└
57	└

Phase 2	
	└ 352
	└ 353
	└ 1249
	└ 1249
313	=
313	=

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
57

Phase 2
1,249

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,306

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / SR-905 NB
Connector

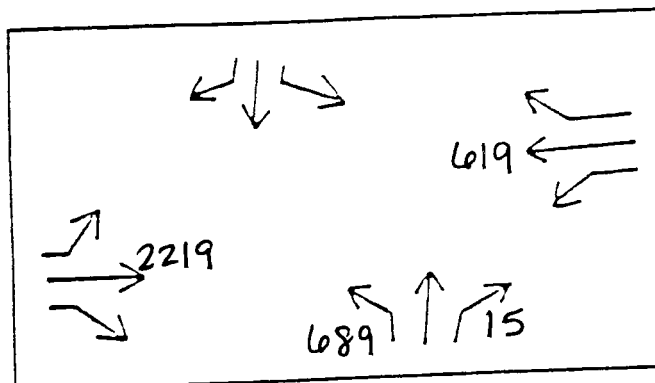
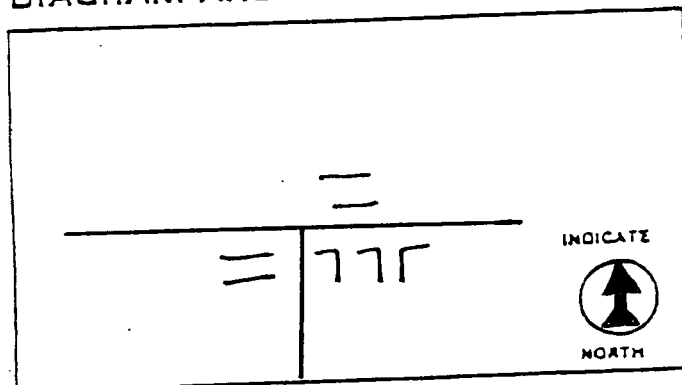
DIST. CO. RTE. P.M. 11/5D/905

BY JB DATE 4-6-10

TIME AM PM

Existing + Units 1-3

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
— 309 — 310	
1109 —	
1110 —	

Phase 2	
	777
	345
	15

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
1,110

Phase 2
345

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,455

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / SR-905 NB
Connector

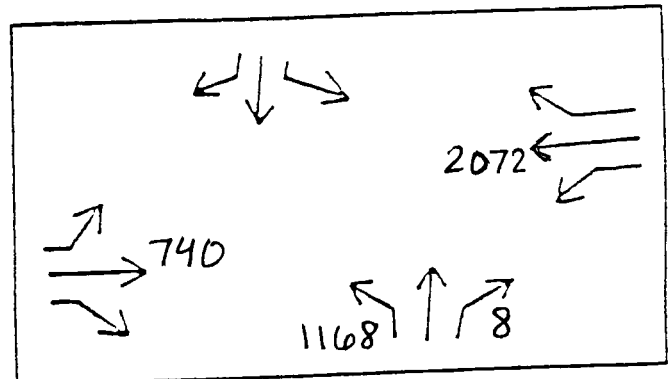
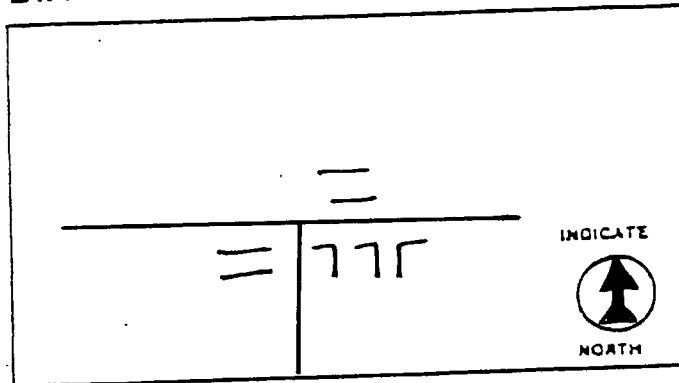
DIST. CO. RTE. P.M. 11/5D/905

BY JB DATE 4-6-10

TIME _____ AM PM

Existing + Units 1-3

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
— 1036	
— 1036	
370 —	
370 —	

Phase 2	
	584
	584
	584

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
1,036

Phase 2
584

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,620

Is . . .

☐ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☒ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SR-905 SB
Ramp

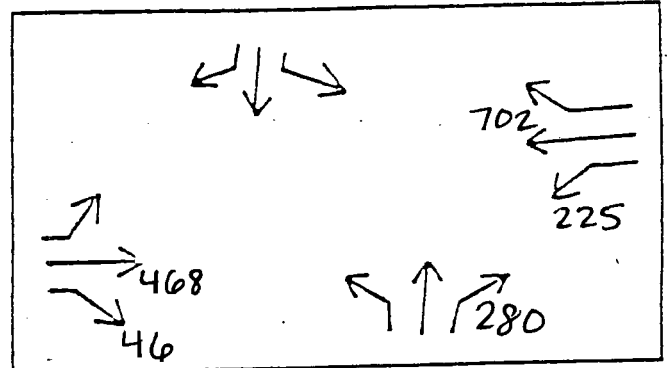
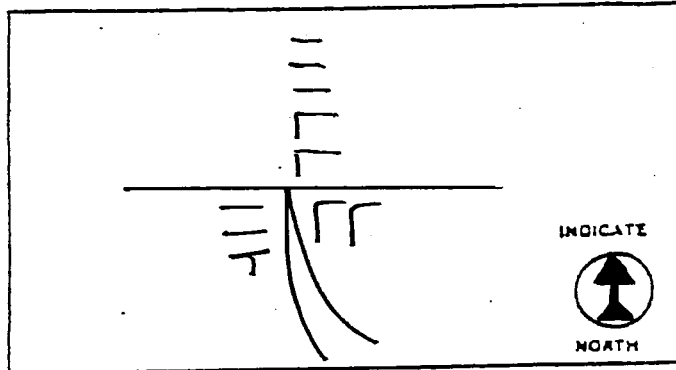
DIST. CO. RTE. P.M. 11 / SD / 905

BY DB DATE 4-6-10

TIME AM PM

Existing + Units 1-3

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1
— 112
— 112
— 112
└ 113
└ 112
└ 95
└ 95

Phase 2
— 32
— 32
— 32
└ 171
└ 172
└ 171

Phase 3
— 90
— 90
— 90
└ 90
└ 90

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
113

Phase 2
172

Phase 3
90

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
375

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SR-905 SB
Ramp

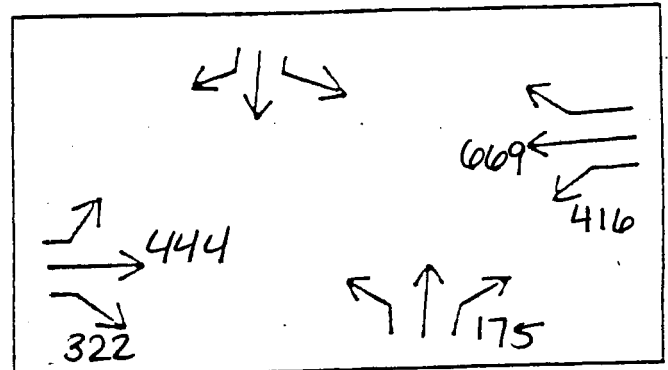
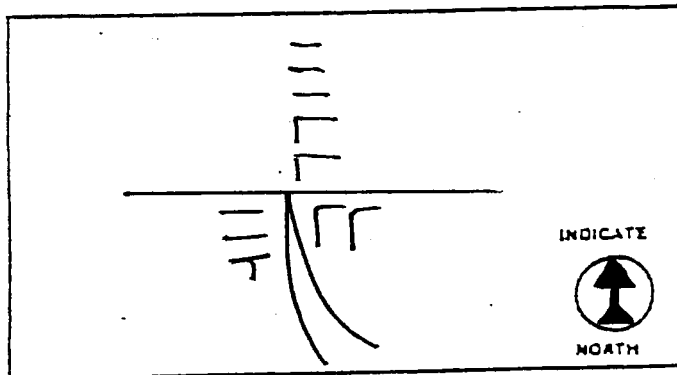
DIST. CO. RTE. P.M. 11 / SD / 905

BY DB DATE 4-6-10

TIME AM PM

Existing + Units 1-3

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1
<div style="display: flex; flex-direction: column; align-items: center;"> <div>— 69</div> <div>— 70</div> <div>— 69</div> <div>└ 208</div> <div>└ 208</div> </div>
<div style="display: flex; flex-direction: column; align-items: center;"> <div>└ 38</div> <div>└ 38</div> <div>└ 38</div> </div>

Phase 2
<div style="display: flex; flex-direction: column; align-items: center;"> <div>— 107</div> <div>— 108</div> <div>— 107</div> </div>
<div style="display: flex; flex-direction: column; align-items: center;"> <div>222</div> <div>222</div> <div>322</div> </div>

Phase 3
<div style="display: flex; flex-direction: column; align-items: center;"> <div>— 38</div> <div>— 38</div> <div>— 38</div> </div>
<div style="display: flex; flex-direction: column; align-items: center;"> <div>└ 38</div> <div>└ 37</div> </div>

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
208

Phase 2
322

Phase 3
38

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
568

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SE-905 NB
Ramp

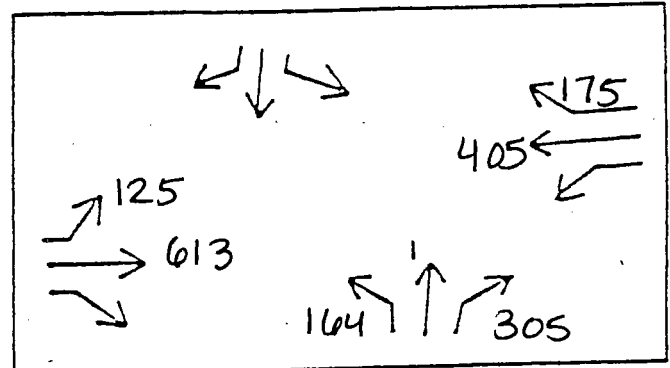
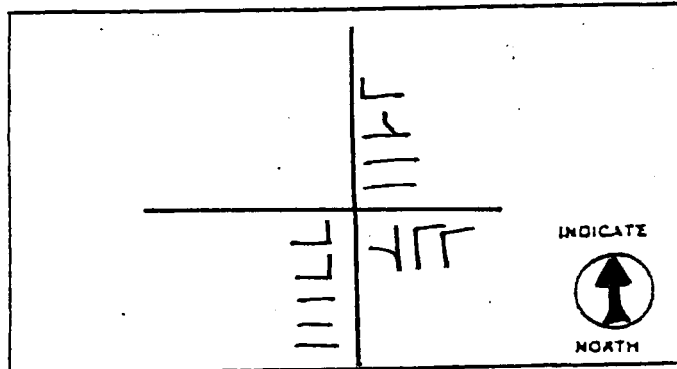
DIST. CO. RTE. P.M. 11/SD/905

BY DB DATE 4-6-10

TIME AM PM

Existing + Units 1-3

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
62	1
63	1
63	1
63	1
63	1

Phase 2	
141	1
142	1
141	1

Phase 3	
165	1
153	1
152	1

Phase 4	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
63

Phase 2
145

Phase 3
165

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
373

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SR-905 NB
Ramp

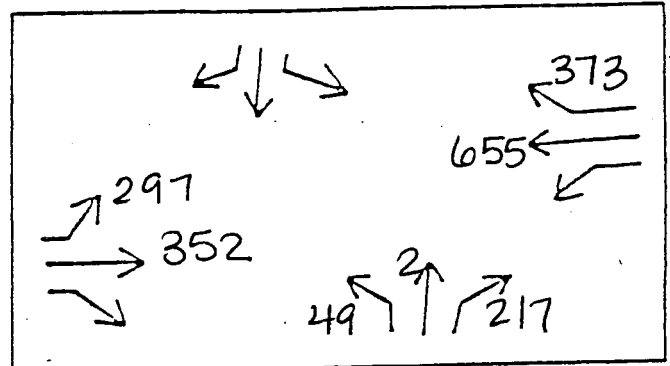
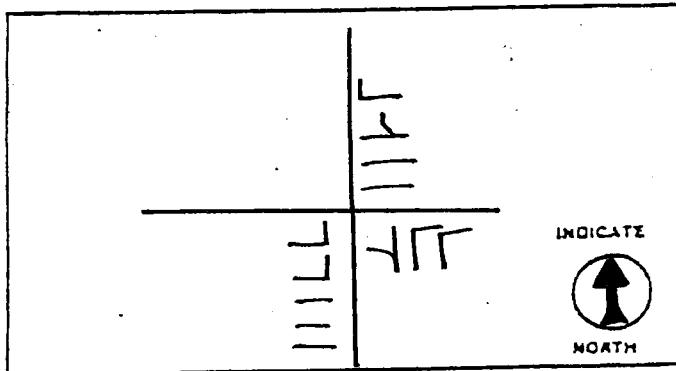
DIST. CO. RTE. P.M. 11/SD/905

BY QRB DATE 4-6-10

TIME _____ AM PM

Existing + Units 1-3

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
149	148
49	49
50	

Phase 2	
68	257
68	257
68	257

Phase 3	
109	109
109	109
109	109

Phase 4	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
149

Phase 2
257

Phase 3
109

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
515

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

APPENDIX H

- Existing + Project Units 1-4 Arterial Synchro Analysis Worksheets
 - Existing + Project Units 1-4 Synchro Analysis Worksheets
 - Existing + Project Units 1-4 Intersection ILV Analysis

Existing + Project Units 1-4 Arterial Synchro Analysis Worksheets

Arterial Level of Service: EB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Heritage Road	II	45	28.4	106.1	134.5	0.27	7.3	F
Cactus Rd	II	45	44.7	60.1	104.8	0.51	17.4	D
Brittania Blvd	II	45	45.5	89.9	135.4	0.52	13.7	E
La Media	II	45	83.0	14.1	97.1	1.04	38.5	A
Piper Ranch Rd	II	45	44.3	38.2	82.5	0.50	22.0	D
	II	45	25.6	16.9	42.5	0.25	20.8	D
SR125 NB Ramp	II	45	14.8	4.6	19.4	0.14	25.1	C
SR905	II	45	15.0	177.9	192.9	0.14	2.6	F
Sanyo Ave	II	45	27.8	28.8	56.6	0.27	17.0	E
Enrico Fermi Dr	II	45	62.8	662.1	724.9	0.78	3.9	F
Total	II		391.9	1198.7	1590.6	4.41	10.0	F

Arterial Level of Service: WB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Enrico Fermi Dr	II	45	43.2	7.6	50.8	0.49	34.8	B
Sanyo Ave	II	45	62.8	3.1	65.9	0.78	42.8	A
SR905	II	45	27.8	10.4	38.2	0.27	25.2	C
SR125 NB Ramp	II	45	15.0	8.4	23.4	0.14	21.2	D
SR125 SB	II	45	14.8	12.3	27.1	0.14	18.0	D
Piper Ranch Rd	II	45	25.6	6.8	32.4	0.25	27.3	C
La Media	II	45	44.3	12.1	56.4	0.50	32.2	B
Brittania Blvd	II	45	83.0	3.5	86.5	1.04	43.2	A
Cactus Rd	II	45	45.5	2.3	47.8	0.52	38.9	A
Heritage Road	II	45	44.7	15.5	60.2	0.51	30.4	B
Total	II		406.7	82.0	488.7	4.63	34.1	B

Arterial Level of Service: EB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Heritage Road	II	45	28.4	19.5	47.9	0.27	20.5	D
Cactus Rd	II	45	44.7	14.6	59.3	0.51	30.8	B
Brittania Blvd	II	45	45.5	11.5	57.0	0.52	32.7	B
La Media	II	45	83.0	28.0	111.0	1.04	33.7	B
Piper Ranch Rd	II	45	43.8	5.7	49.5	0.50	36.2	A
	II	45	26.2	2.8	29.0	0.25	31.3	B
SR125 NB Ramp	II	45	14.7	0.2	14.9	0.14	32.7	B
SR905	II	45	15.0	15.4	30.4	0.14	16.3	E
Sanyo Ave	II	45	27.8	13.7	41.5	0.27	23.2	C
Enrico Fermi Rd	II	45	62.8	45.5	108.3	0.78	26.1	C
Total	II		391.9	156.9	548.8	4.41	28.9	B

























Arterial Level of Service: WB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Enrico Fermi Rd	II	45	43.2	146.2	189.4	0.49	9.3	F
Sanyo Ave	II	45	62.8	419.5	482.3	0.78	5.9	F
SR905	II	45	27.8	267.1	294.9	0.27	3.3	F
SR125 NB Ramp	II	45	15.0	25.2	40.2	0.14	12.3	F
SR125 SB	II	45	14.7	2.6	17.3	0.14	28.1	B
Piper Ranch Rd	II	45	26.2	3.3	29.5	0.25	30.7	B
La Media	II	45	43.8	49.7	93.5	0.50	19.2	D
Brittania Blvd	II	45	83.0	28.3	111.3	1.04	33.6	B
Cactus Rd	II	45	45.5	10.3	55.8	0.52	33.4	B
Heritage Road	II	45	44.7	68.5	113.2	0.51	16.1	E
Total	II		406.7	1020.7	1427.4	4.63	11.7	F

Existing + Project Units 1-4 Synchro Analysis Worksheets

040501 - Otay Crossings

1: Otay Mesa Road & Heritage Road
Ex+Otay Crossings - Units 1-4- AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Fr't			0.850			0.850		0.893				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4803	1583	3433	4803	1583	1770	1663	0	1770	1863	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4803	1583	3433	4803	1583	1770	1663	0	1770	1863	2787
Satd. Flow (RTOR)			150			80		43				58
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	105	3531	194	39	1256	71	54	22	56	233	37	52
Adj. Flow (vph)	118	3967	218	44	1411	80	61	25	63	262	42	58
Lane Group Flow (vph)	118	3967	218	44	1411	80	61	88	0	262	42	58
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot			Prot		pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases			2			6						4
Total Split (s)	15.2	122.0	22.5	8.5	115.3	27.0	22.5	22.5	0.0	27.0	27.0	15.2
Act Effct Green (s)	11.6	127.2	155.4	4.5	118.4	145.4	24.2	11.0		23.0	9.8	21.4
Actuated g/C Ratio	0.06	0.71	0.86	0.02	0.66	0.81	0.13	0.06		0.13	0.05	0.12
v/c Ratio	0.53	1.17	0.16	0.51	0.45	0.06	0.26	0.62		1.16	0.41	0.15
Control Delay	90.2	106.1	1.0	103.2	15.5	0.9	72.4	61.3		174.0	93.5	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	90.2	106.1	1.0	103.2	15.5	0.9	72.4	61.3		174.0	93.5	10.2
LOS	F	F	A	F	B	A	E	E		F	F	B
Approach Delay		100.3			17.3			65.8			138.5	
Approach LOS		F			B			E			F	

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.17

Intersection Signal Delay: 81.6













Intersection LOS: F

Intersection Capacity Utilization 94.5%

ICU Level of Service F

Analysis Period (min) 15

























Splits and Phases: 1: Otay Mesa Road & Heritage Road

					
ø2	ø4	ø3	ø5	ø6	ø7
122 s	8.5 s	27 s	22.5 s	15.2 s	115.3 s
					
ø5	ø6	ø7	ø8		
15.2 s	115.3 s	27 s	22.5 s		

1: Otay Mesa Road & Heritage Road

Ex+Otay Crossings - Units 1-4- PM

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frt			0.850			0.850		0.920				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4803	1583	3433	4803	1583	1770	1714	0	1770	1863	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4803	1583	3433	4803	1583	1770	1714	0	1770	1863	2787
Satd. Flow (RTOR)			157			175		25				86
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	189	1882	152	46	3041	219	133	58	66	217	65	220
Adj. Flow (vph)	195	1940	157	47	3135	226	137	60	68	224	67	227
Lane Group Flow (vph)	195	1940	157	47	3135	226	137	128	0	224	67	227
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot			Prot		pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases			2			6						4
Total Split (s)	16.0	117.4	27.4	11.1	112.5	31.0	27.4	20.5	0.0	31.0	24.1	16.0
Act Effct Green (s)	12.0	115.9	144.3	6.9	108.6	133.8	27.6	14.6		25.2	12.1	24.2
Actuated g/C Ratio	0.07	0.66	0.82	0.04	0.62	0.76	0.16	0.08		0.14	0.07	0.14
v/c Ratio	0.83	0.61	0.12	0.35	1.06	0.18	0.49	0.78		0.89	0.52	0.50
Control Delay	109.0	19.5	0.5	91.5	68.5	1.1	75.2	93.2		107.1	94.0	31.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	109.0	19.5	0.5	91.5	68.5	1.1	75.2	93.2		107.1	94.0	31.4
LOS	F	B	A	F	E	A	E	F		F	F	C
Approach Delay		25.8			64.3			83.9			72.3	
Approach LOS		C			E			F			E	

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 176.4

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.06

Intersection Signal Delay: 52.1



















Intersection LOS: D

Intersection Capacity Utilization 96.6%




























ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 1: Otay Mesa Road & Heritage Road

								
11.1 s	117.4 s		24.1 s	27.4 s		20.5 s	31 s	
								
16 s	112.5 s							

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.998							0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4797	0	1770	4804	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4797	0	1770	4804	0	1770	1863	1583	1770	1863	1583
Satd. Flow (RTOR)		3			1				28			78
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	8	4004	58	53	1443	5	22	1	98	3	0	5
Adj. Flow (vph)	9	4400	64	58	1586	5	24	1	108	3	0	5
Lane Group Flow (vph)	9	4464	0	58	1591	0	24	1	108	3	0	5
Turn Type	Prot			Prot			Prot	pm+ov		Prot		pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases									8			4
Total Split (s)	8.5	134.5	0.0	15.0	141.0	0.0	10.0	22.0	15.0	8.5	20.5	8.5
Act Effct Green (s)	7.0	151.6		12.5	164.9		7.9	6.2	18.7	4.5		7.0
Actuated g/C Ratio	0.04	0.84		0.07	0.92		0.04	0.03	0.10	0.02		0.04
v/c Ratio	0.13	1.10		0.47	0.36		0.31	0.02	0.57	0.07		0.04
Control Delay	89.5	60.1		92.3	2.3		92.4	84.0	66.7	89.0		0.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Total Delay	89.5	60.1		92.3	2.3		92.4	84.0	66.7	89.0		0.4
LOS	F	E		F	A		F	F	E	F		A
Approach Delay		60.1			5.5			71.5				
Approach LOS		E			A			E				

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 26 (14%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.10

Intersection Signal Delay: 45.9









Intersection LOS: D

Intersection Capacity Utilization 98.1%























ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 2: Otay Mesa Road & Cactus Rd

			
ø1	ø2	ø3	ø4
15 s	134.5 s	10 s	20.5 s
			
ø5	ø6	ø7	ø8
8.5 s	141 s	8.5 s	22 s

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.996			0.999				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4790	0	1770	4799	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4790	0	1770	4799	0	1770	1863	1583	1770	1863	1583
Satd. Flow (RTOR)		3			1				97			53
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	6	2404	58	100	3644	16	43	1	112	4	0	15
Adj. Flow (vph)	6	2453	59	102	3718	16	44	1	114	4	0	15
Lane Group Flow (vph)	6	2512	0	102	3734	0	44	1	114	4	0	15
Turn Type	Prot			Prot			Prot		pm+ov	Prot		pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases									8			4
Total Split (s)	14.5	104.9	0.0	28.5	118.9	0.0	20.1	32.1	28.5	14.5	26.5	14.5
Act Effct Green (s)	6.7	133.5		25.5	157.1		11.1	8.7	35.4	6.5		6.7
Actuated g/C Ratio	0.04	0.74		0.14	0.87		0.06	0.05	0.20	0.04		0.04
v/c Ratio	0.09	0.71		0.41	0.89		0.40	0.01	0.29	0.06		0.14
Control Delay	86.2	14.6		69.3	10.3		90.7	82.0	14.9	85.5		2.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Total Delay	86.2	14.6		69.3	10.3		90.7	82.0	14.9	85.5		2.6
LOS	F	B		E	B		F	F	B	F		A
Approach Delay		14.8			11.9			36.3				
Approach LOS		B			B			D				

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 139 (77%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 13.6









Intersection LOS: B

Intersection Capacity Utilization 93.1%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 2: Otay Mesa Road & Cactus Rd

 ø2	 ø1	 ø3	 ø4
104.9 s	28.5 s	20.1 s	26.5 s
 ø5	 ø6	 ø7	 ø8
14.5 s	118.9 s	14.5 s	32.1 s

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑	↑↑↑	↑↑	↑
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4803	1583	1770	4803	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4803	1583	1770	4803	3433	1583
Satd. Flow (RTOR)		392				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	3269	669	51	1327	176	57
Adj. Flow (vph)	3846	787	60	1561	207	67
Lane Group Flow (vph)	3846	787	60	1561	207	67
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Total Split (s)	70.6	36.3	13.1	83.7	36.3	13.1
Act Effect Green (s)	83.9	106.3	8.6	94.4	17.6	29.4
Actuated g/C Ratio	0.70	0.89	0.07	0.79	0.15	0.24
v/c Ratio	1.14	0.54	0.47	0.41	0.41	0.17
Control Delay	89.9	2.4	54.8	3.5	47.7	33.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	89.9	2.4	54.8	3.5	47.7	33.7
LOS	F	A	D	A	D	C
Approach Delay	75.0			5.4	44.2	
Approach LOS	E			A	D	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.14

Intersection Signal Delay: 56.5

Intersection LOS: E

Intersection Capacity Utilization 74.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: Otay Mesa Road & Britannia Blvd

→ ø2	↖ ø1
70.6 s	13.1 s
← ø6	↗ ø8
83.7 s	36.3 s

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑	↑↑↑	↑↑	↑
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4803	1583	1770	4803	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4803	1583	1770	4803	3433	1583
Satd. Flow (RTOR)		309				2
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	2072	287	67	3125	587	53
Adj. Flow (vph)	2228	309	72	3360	631	57
Lane Group Flow (vph)	2228	309	72	3360	631	57
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Total Split (s)	95.2	60.6	24.2	119.4	60.6	24.2
Act Effct Green (s)	115.9	159.0	13.0	132.9	39.1	56.1
Actuated g/C Ratio	0.64	0.88	0.07	0.74	0.22	0.31
v/c Ratio	0.72	0.22	0.56	0.95	0.85	0.12
Control Delay	11.5	0.8	96.6	28.3	78.8	40.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.5	0.8	96.6	28.3	78.8	40.8
LOS	B	A	F	C	E	D
Approach Delay	10.2			29.8	75.7	
Approach LOS	B			C	E	

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 170 (94%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 27.0

Intersection LOS: C

Intersection Capacity Utilization 83.8%



























ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Otay Mesa Road & Brittania Blvd

↖ ø1	→ ø2	
24.2 s	95.2 s	
← ø6		↗ ø8
119.4 s		60.6 s

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  					 		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Fr't			0.850		0.995			0.939			0.913	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4803	1583	1770	4788	0	1770	1690	0	3433	1659	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4803	1583	1770	4788	0	1770	1690	0	3433	1659	0
Satd. Flow (RTOR)			213		7			17			48	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	71	2704	233	87	1273	46	75	24	16	80	52	71
Adj. Flow (vph)	75	2846	245	92	1340	48	79	25	17	84	55	75
Lane Group Flow (vph)	75	2846	245	92	1388	0	79	42	0	84	130	0
Turn Type	Prot		pm+ov	Prot			Prot			Prot		
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Total Split (s)	11.8	66.8	13.5	17.0	72.0	0.0	13.5	25.0	0.0	11.2	22.7	0.0
Act Effct Green (s)	7.7	71.6	84.6	11.6	77.7		9.0	10.1		12.7	11.8	
Actuated g/C Ratio	0.06	0.60	0.70	0.10	0.65		0.08	0.08		0.11	0.10	
v/c Ratio	0.66	0.99	0.21	0.54	0.45		0.59	0.27		0.23	0.63	
Control Delay	40.5	14.1	0.4	62.9	12.1		72.1	39.9		49.4	45.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	40.5	14.1	0.4	62.9	12.1		72.1	39.9		49.4	45.3	
LOS	D	B	A	E	B		E	D		D	D	
Approach Delay		13.7			15.3			60.9			46.9	
Approach LOS		B			B			E			D	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 87 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 16.7









Intersection LOS: B

Intersection Capacity Utilization 81.6%




























ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 4: Otay Mesa Road & La Media

			
ø1	ø2	ø3	ø4
17 s	66.8 s	13.5 s	22.7 s
			
ø6	ø5	ø8	ø7
72 s	11.8 s	25 s	11.2 s

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  					 		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Fr't			0.850		0.997			0.922			0.903	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4803	1583	1770	4793	0	1770	1670	0	3433	1648	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4803	1583	1770	4793	0	1770	1670	0	3433	1648	0
Satd. Flow (RTOR)			249		3			25			54	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	70	1855	239	55	2719	51	158	22	24	70	63	116
Adj. Flow (vph)	73	1932	249	57	2832	53	165	23	25	73	66	121
Lane Group Flow (vph)	73	1932	249	57	2885	0	165	48	0	73	187	0
Turn Type	Prot		pm+ov	Prot			Prot			Prot		
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Total Split (s)	15.0	71.0	25.9	22.0	78.0	0.0	25.9	30.1	0.0	16.9	21.1	0.0
Act Effct Green (s)	9.9	77.5	99.4	15.4	83.1		17.9	12.1		23.1	15.2	
Actuated g/C Ratio	0.07	0.55	0.71	0.11	0.59		0.13	0.09		0.16	0.11	
v/c Ratio	0.58	0.73	0.21	0.29	1.01		0.73	0.29		0.13	0.82	
Control Delay	81.2	28.0	1.4	59.7	49.7		76.8	39.8		47.7	70.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	81.2	28.0	1.4	59.7	49.7		76.8	39.8		47.7	70.1	
LOS	F	C	A	E	D		E	D		D	E	
Approach Delay		26.8			49.9			68.5			63.8	
Approach LOS		C			D			E			E	

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 42.0









Intersection LOS: D

Intersection Capacity Utilization 87.4%

















ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 4: Otay Mesa Road & La Media

 ø2	 ø1	 ø4	 ø3
71 s	22 s	21.1 s	25.9 s
 ø6	 ø5	 ø8	 ø7
78 s	15 s	30.1 s	16.9 s

040501 - Otay Crossings

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	  		  	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.91	0.91	0.97	0.91
Frt			0.997			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	5070	0	3433	1441
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	3539	5070	0	3433	1441
Satd. Flow (RTOR)			5			20
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	106	2737	1389	32	30	18
Adj. Flow (vph)	119	3075	1561	36	34	20
Lane Group Flow (vph)	119	3075	1597	0	34	20
Turn Type	Prot				custom	
Protected Phases	5	2	6			
Permitted Phases					4	4
Total Split (s)	22.0	64.0	42.0	0.0	26.0	26.0
Act Effct Green (s)	15.8	75.2	57.6		6.8	6.8
Actuated g/C Ratio	0.18	0.84	0.64		0.08	0.08
v/c Ratio	0.38	1.04	0.49		0.13	0.16
Control Delay	35.5	38.2	6.8		39.6	19.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	35.5	38.2	6.8		39.6	19.4
LOS	D	D	A		D	B
Approach Delay		38.1	6.8		32.1	
Approach LOS		D	A		C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 9 (10%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 27.7





Intersection LOS: C

Intersection Capacity Utilization 85.7%












ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 5: Otay Mesa Road & Piper Ranch Rd

 ø2	 ø4
64 s	26 s
 ø6	 ø5
42 s	22 s

040501 - Otay Crossings





						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.91	0.91	0.97	0.91
Frt			0.998		0.930	0.850
Flt Protected	0.950				0.974	
Satd. Flow (prot)	1770	3539	5075	0	3273	1441
Flt Permitted	0.950				0.974	
Satd. Flow (perm)	1770	3539	5075	0	3273	1441
Satd. Flow (RTOR)			3		51	51
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	17	1999	2728	29	53	94
Adj. Flow (vph)	18	2173	2965	32	58	102
Lane Group Flow (vph)	18	2173	2997	0	109	51
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Total Split (s)	13.5	64.5	51.0	0.0	25.5	25.5
Act Effct Green (s)	6.9	74.4	69.6		7.6	7.6
Actuated g/C Ratio	0.08	0.83	0.77		0.08	0.08
v/c Ratio	0.13	0.74	0.76		0.34	0.30
Control Delay	40.4	5.7	3.3		25.0	16.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	40.4	5.7	3.3		25.0	16.4
LOS	D	A	A		C	B
Approach Delay		6.0	3.3		22.2	
Approach LOS		A	A		C	

Intersection Summary


















Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 5.0
 Intersection Capacity Utilization 65.3%
 Analysis Period (min) 15

Intersection LOS: A
ICU Level of Service C

Splits and Phases: 5: Otay Mesa Road & Piper Ranch Rd

 ø2	 ø4
64.5 s	25.5 s
 ø5	 ø6
13.5 s	51 s

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	0.86	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Fr't			0.850									0.850
Flt Protected										0.950		
Satd. Flow (prot)	0	4806	1362	0	5085	0	0	0	0	3433	0	1583
Flt Permitted										0.950		
Satd. Flow (perm)	0	4806	1362	0	5085	0	0	0	0	3433	0	1583
Satd. Flow (RTOR)			621									25
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	1701	931	0	1217	0	0	0	0	830	0	145
Adj. Flow (vph)	0	1978	1083	0	1415	0	0	0	0	965	0	169
Lane Group Flow (vph)	0	1978	1083	0	1415	0	0	0	0	965	0	169
Turn Type			Free							Prot		custom
Protected Phases		2			6					4		
Permitted Phases			Free									4
Total Split (s)	0.0	49.8	0.0	0.0	49.8	0.0	0.0	0.0	0.0	40.2	0.0	40.2
Act Effct Green (s)		50.8	90.0		50.8					31.2		31.2
Actuated g/C Ratio		0.56	1.00		0.56					0.35		0.35
v/c Ratio		0.73	0.80		0.49					0.81		0.30
Control Delay		16.9	2.6		12.3					32.3		18.5
Queue Delay		0.0	0.0		0.0					0.0		0.0
Total Delay		16.9	2.6		12.3					32.3		18.5
LOS		B	A		B					C		B
Approach Delay		11.8			12.3							
Approach LOS		B			B							

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 2 (2%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 15.7




Intersection LOS: B

Intersection Capacity Utilization 72.5%

ICU Level of Service C













Analysis Period (min) 15

Splits and Phases: 6: Otay Mesa Road & SR125 SB

 ø2	 ø4
49.8 s	40.2 s
 ø6	
49.8 s	

040501 - Otay Crossings

6: Otay Mesa Road & SR125 SB
Ex+Otay Crossings - Units 1-4- PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑					↑↑		↑
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	0.86	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Fr _t		0.930	0.850									0.850
Flt Protected										0.950		
Satd. Flow (prot)	0	4469	1362	0	5085	0	0	0	0	3433	0	1583
Flt Permitted										0.950		
Satd. Flow (perm)	0	4469	1362	0	5085	0	0	0	0	3433	0	1583
Satd. Flow (RTOR)		539	663									2
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	692	1219	0	2773	0	0	0	0	282	0	40
Adj. Flow (vph)	0	752	1325	0	3014	0	0	0	0	307	0	43
Lane Group Flow (vph)	0	1414	663	0	3014	0	0	0	0	307	0	43
Turn Type			Free							Prot		custom
Protected Phases		2			6					4		
Permitted Phases			Free									4
Total Split (s)	0.0	64.5	0.0	0.0	64.5	0.0	0.0	0.0	0.0	25.5	0.0	25.5
Act Effct Green (s)		68.6	90.0		68.6					13.4		13.4
Actuated g/C Ratio		0.76	1.00		0.76					0.15		0.15
v/c Ratio		0.40	0.49		0.78					0.60		0.18
Control Delay		2.8	0.8		2.6					40.5		32.9
Queue Delay		0.0	0.0		0.5					0.0		0.0
Total Delay		2.8	0.8		3.1					40.5		32.9
LOS		A	A		A					D		C
Approach Delay		2.2			3.1							
Approach LOS		A			A							

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 56 (62%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 5.1




Intersection LOS: A

Intersection Capacity Utilization 84.5%















ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 6: Otay Mesa Road & SR125 SB

 ø2	 ø4
64.5 s	25.5 s
 ø6	
64.5 s	

040501 - Otay Crossings




						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	 	 	 	 		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Fr				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				217		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	29	2503	1171	189	0	0
Adj. Flow (vph)	33	2877	1346	217	0	0
Lane Group Flow (vph)	33	2877	1346	217	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Total Split (s)	18.0	90.0	72.0	72.0	0.0	0.0
Act Effct Green (s)	15.1	90.0	75.5	75.5		
Actuated g/C Ratio	0.17	1.00	0.84	0.84		
v/c Ratio	0.06	0.81	0.45	0.09		
Control Delay	21.4	4.6	8.4	2.5		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	21.4	4.6	8.4	2.5		
LOS	C	A	A	A		
Approach Delay		4.8	7.6			
Approach LOS		A	A			

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 62 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 5.7
 Intersection Capacity Utilization 72.5%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service C











Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

	ø2				
90 s					
	ø6				ø5
72 s				18 s	

040501 - Otay Crossings

7: Otay Mesa Road & SR125 NB Ramp

Ex+Otay Crossings - Units 1-4- PM

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				633		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	113	861	2694	789	0	0
Adj. Flow (vph)	124	946	2960	867	0	0
Lane Group Flow (vph)	124	946	2960	867	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Total Split (s)	17.0	90.0	73.0	73.0	0.0	0.0
Act Effct Green (s)	9.0	90.0	73.0	73.0		
Actuated g/C Ratio	0.10	1.00	0.81	0.81		
v/c Ratio	0.36	0.27	1.03	0.36		
Control Delay	45.2	0.2	25.2	0.2		
Queue Delay	0.0	0.0	37.4	0.0		
Total Delay	45.2	0.2	62.6	0.2		
LOS	D	A	E	A		
Approach Delay		5.4	48.4			
Approach LOS		A	D			

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 33 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 39.0




Intersection LOS: D

Intersection Capacity Utilization 84.5%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

	ø2				
90 s					
	ø5		ø6		
17 s		73 s			

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Fr _t						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	3433	1583
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	2520	0	0	693	689	15
Adj. Flow (vph)	2930	0	0	806	801	17
Lane Group Flow (vph)	2930	0	0	806	801	17
Turn Type						Perm
Protected Phases	2			6	8	
Permitted Phases						8
Total Split (s)	44.5	0.0	0.0	44.5	45.5	45.5
Act Effct Green (s)	55.3			55.3	26.7	26.7
Actuated g/C Ratio	0.61			0.61	0.30	0.30
v/c Ratio	1.35			0.37	0.79	0.04
Control Delay	177.9			10.4	29.8	13.7
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	177.9			10.4	29.8	13.7
LOS	F			B	C	B
Approach Delay	177.9			10.4	29.5	
Approach LOS	F			B	C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 58 (64%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.35

Intersection Signal Delay: 121.6

Intersection LOS: F

Intersection Capacity Utilization 96.0%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 8: Otay Mesa Road & SR905

→ ø2		
44.5 s		
← ø6		↖ ø8
44.5 s	45.5 s	

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Fr _t						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	3433	1583
Satd. Flow (RTOR)						9
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	861	0	0	2354	1168	8
Adj. Flow (vph)	946	0	0	2587	1284	9
Lane Group Flow (vph)	946	0	0	2587	1284	9
Turn Type						Perm
Protected Phases	2			6	8	
Permitted Phases						8
Total Split (s)	39.0	0.0	0.0	39.0	51.0	51.0
Act Effct Green (s)	42.6			42.6	39.4	39.4
Actuated g/C Ratio	0.47			0.47	0.44	0.44
v/c Ratio	0.57			1.55	0.85	0.01
Control Delay	15.4			267.1	26.2	5.0
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	15.4			267.1	26.3	5.0
LOS	B			F	C	A
Approach Delay	15.4			267.1	26.1	
Approach LOS	B			F	C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 29 (32%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.55

Intersection Signal Delay: 153.2

Intersection LOS: F

Intersection Capacity Utilization 105.1%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 8: Otay Mesa Road & SR905

→ Ø2		
39 s		
← Ø6		↖ Ø8
39 s	51 s	

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑	↖↗	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.988				0.965	
Flt Protected			0.950		0.963	
Satd. Flow (prot)	3497	0	1770	1863	3358	0
Flt Permitted			0.950		0.963	
Satd. Flow (perm)	3497	0	1770	1863	3358	0
Satd. Flow (RTOR)	14				12	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	2226	200	24	680	32	10
Adj. Flow (vph)	2782	250	30	850	40	12
Lane Group Flow (vph)	3032	0	30	850	52	0
Turn Type			Prot			
Protected Phases	2		1	6	3	
Permitted Phases						
Total Split (s)	45.2	0.0	21.5	66.7	23.3	0.0
Act Effct Green (s)	75.5		7.4	80.7	7.0	
Actuated g/C Ratio	0.84		0.08	0.90	0.08	
v/c Ratio	1.03		0.21	0.51	0.19	
Control Delay	28.8		41.4	3.1	33.1	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	28.8		41.4	3.1	33.1	
LOS	C		D	A	C	
Approach Delay	28.8			4.4	33.1	
Approach LOS	C			A	C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 23.5

Intersection LOS: C

Intersection Capacity Utilization 77.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

↙ ø1	→ ø2	↖ ø3
21.5 s	45.2 s	23.3 s
← ø6		
66.7 s		

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑	↖↖	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.991				0.996	
Flt Protected			0.950		0.954	
Satd. Flow (prot)	3507	0	1770	1863	3434	0
Flt Permitted			0.950		0.954	
Satd. Flow (perm)	3507	0	1770	1863	3434	0
Satd. Flow (RTOR)	11				3	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	813	54	12	2228	185	5
Adj. Flow (vph)	1004	67	15	2751	228	6
Lane Group Flow (vph)	1071	0	15	2751	234	0
Turn Type			Prot			
Protected Phases	2		1	6	3	
Permitted Phases						
Total Split (s)	48.4	0.0	17.5	65.9	24.1	0.0
Act Effct Green (s)	68.0		6.7	70.4	11.6	
Actuated g/C Ratio	0.76		0.07	0.78	0.13	
v/c Ratio	0.40		0.11	1.89	0.53	
Control Delay	13.7		40.4	419.5	40.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	13.7		40.4	419.5	40.2	
LOS	B		D	F	D	
Approach Delay	13.7			417.4	40.2	
Approach LOS	B			F	D	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.89

Intersection Signal Delay: 289.5

Intersection LOS: F

Intersection Capacity Utilization 129.4%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

↙ ø1	→ ø2	↖ ø3
17.5 s	48.4 s	24.1 s
← ø6		
65.9 s		

040501 - Otay Crossings

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖	↗	↖	↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.955					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1779	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1779	0	1770	1863	1770	1583
Satd. Flow (RTOR)	30					56
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1525	756	37	342	280	48
Adj. Flow (vph)	1794	889	44	402	329	56
Lane Group Flow (vph)	2683	0	44	402	329	56
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	65.5	0.0	21.0	86.5	33.5	33.5
Act Effct Green (s)	62.6		8.6	70.2	23.3	23.3
Actuated g/C Ratio	0.62		0.08	0.69	0.23	0.23
v/c Ratio	2.43		0.31	0.31	0.81	0.14
Control Delay	662.1		53.3	7.6	54.1	9.6
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	662.1		53.3	7.6	54.1	9.6
LOS	F		D	A	D	A
Approach Delay	662.1			12.1	47.6	
Approach LOS	F			B	D	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 101.7

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 2.43

Intersection Signal Delay: 512.3

Intersection LOS: F

Intersection Capacity Utilization 148.5%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

↖ ø1	→ ø2	
21 s	65.5 s	
← ø6		↖ ø8
86.5 s		33.5 s

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↰	↱	↰
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.948					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1766	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1766	0	1770	1863	1770	1583
Satd. Flow (RTOR)	36					14
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	492	310	140	1468	835	26
Adj. Flow (vph)	535	337	152	1596	908	28
Lane Group Flow (vph)	872	0	152	1596	908	28
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	60.3	0.0	25.2	85.5	34.5	34.5
Act Effct Green (s)	62.0		15.5	81.5	30.5	30.5
Actuated g/C Ratio	0.52		0.13	0.68	0.25	0.25
v/c Ratio	0.94		0.66	1.26	2.02	0.07
Control Delay	45.5		63.0	146.2	491.8	21.9
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	45.5		63.0	146.2	491.8	21.9
LOS	D		E	F	F	C
Approach Delay	45.5			139.0	477.7	
Approach LOS	D			F	F	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 2.02

Intersection Signal Delay: 205.2

Intersection LOS: F

Intersection Capacity Utilization 130.2%

ICU Level of Service H

















Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Rd

↙ ø1	→ ø2	
25.2 s	60.3 s	
← ø6		↖ ø8
85.5 s		34.5 s

















040501 - Otay Crossings

14: Otay Mesa Road & Alta Rd.
Ex+Otay Crossings - Units 1-4- AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	652	391	676	0	96	0	196	1	0	0	4	168
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	709	425	735	0	104	0	213	1	0	0	4	183
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	1868	104	214	187								
Volume Left (vph)	709	0	213	0								
Volume Right (vph)	735	0	0	183								
Hadj (s)	-0.13	0.03	0.23	-0.55								
Departure Headway (s)	5.3	6.4	6.7	6.0								
Degree Utilization, x	2.74	0.18	0.40	0.31								
Capacity (veh/h)	692	525	523	572								
Control Delay (s)	800.6	10.8	14.0	11.7								
Approach Delay (s)	800.6	10.8	14.0	11.7								
Approach LOS	F	B	B	B								
Intersection Summary												
Delay				632.8								
HCM Level of Service				F								
Intersection Capacity Utilization				136.2%	ICU Level of Service	H						
Analysis Period (min)				15								


















040501 - Otay Crossings

14: Otay Mesa Road & Alta Rd
Ex+Otay Crossings - Units 1-4- PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	101	168	272	0	356	0	651	0	0	0	1	726
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	116	193	313	0	409	0	748	0	0	0	1	834
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	622	409	748	836								
Volume Left (vph)	116	0	748	0								
Volume Right (vph)	313	0	0	834								
Hadj (s)	-0.23	0.03	0.23	-0.57								
Departure Headway (s)	9.3	9.6	9.8	9.0								
Degree Utilization, x	1.61	1.09	2.04	2.09								
Capacity (veh/h)	389	384	373	407								
Control Delay (s)	310.6	104.7	497.7	518.9								
Approach Delay (s)	310.6	104.7	497.7	518.9								
Approach LOS	F	F	F	F								
Intersection Summary												
Delay			398.5									
HCM Level of Service			F									
Intersection Capacity Utilization			144.2%		ICU Level of Service					H		
Analysis Period (min)			15									


















040501 - Otay Crossings

17: Airway Rd & La Media
Ex+Otay Crossings - Units 1-4- AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	9	84	60	35	80	49	57	101	3	209	255	46
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	10	93	67	39	89	54	63	112	3	232	283	51
Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2							
Volume Total (vph)	170	182	179	232	334							
Volume Left (vph)	10	39	63	232	0							
Volume Right (vph)	67	54	3	0	51							
Hadj (s)	-0.19	-0.10	0.16	0.53	0.01							
Departure Headway (s)	6.0	6.0	6.1	6.4	5.9							
Degree Utilization, x	0.28	0.31	0.30	0.41	0.55							
Capacity (veh/h)	547	544	541	543	596							
Control Delay (s)	11.3	11.7	11.7	12.7	14.5							
Approach Delay (s)	11.3	11.7	11.7	13.8								
Approach LOS	B	B	B	B								
Intersection Summary												
Delay			12.7									
HCM Level of Service			B									
Intersection Capacity Utilization			55.0%			ICU Level of Service				A		
Analysis Period (min)			15									




















040501 - Otay Crossings

17: Airway Rd & La Media
Ex+Otay Crossings - Units 1-4- PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	38	145	83	119	116	119	72	180	8	143	171	23
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Hourly flow rate (vph)	38	146	84	120	117	120	73	182	8	144	173	23
Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2							
Volume Total (vph)	269	358	263	144	196							
Volume Left (vph)	38	120	73	144	0							
Volume Right (vph)	84	120	8	0	23							
Hadj (s)	-0.12	-0.10	0.14	0.53	0.04							
Departure Headway (s)	6.7	6.5	7.1	7.8	7.3							
Degree Utilization, x	0.50	0.64	0.52	0.31	0.40							
Capacity (veh/h)	483	514	461	427	448							
Control Delay (s)	16.1	20.4	17.4	13.1	13.7							
Approach Delay (s)	16.1	20.4	17.4	13.5								
Approach LOS	C	C	C	B								
Intersection Summary												
Delay			16.9									
HCM Level of Service			C									
Intersection Capacity Utilization			72.4%			ICU Level of Service				C		
Analysis Period (min)			15									




















040501 - Otay Crossings

19: Airway Rd & Sanyo Ave
Ex+Otay Crossings - Units 1-4- AM











												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	14	124	91	4	128	21	31	15	3	102	121	12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	15	133	98	4	138	23	33	16	3	110	130	13
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2					
Volume Total (vph)	246	142	23	33	19	240	13					
Volume Left (vph)	15	4	0	33	0	110	0					
Volume Right (vph)	98	0	23	0	3	0	13					
Hadj (s)	-0.19	0.05	-0.67	0.53	-0.08	0.26	-0.67					
Departure Headway (s)	5.4	5.8	5.1	6.6	5.9	6.0	5.0					
Degree Utilization, x	0.37	0.23	0.03	0.06	0.03	0.40	0.02					
Capacity (veh/h)	629	587	663	504	552	572	670					
Control Delay (s)	11.6	9.3	7.0	8.8	7.9	11.7	6.9					
Approach Delay (s)	11.6	9.0		8.5		11.4						
Approach LOS	B	A		A		B						
Intersection Summary												
Delay			10.7									
HCM Level of Service			B									
Intersection Capacity Utilization			48.5%			ICU Level of Service				A		
Analysis Period (min)			15									

040501 - Otay Crossings











19: Airway Rd & Sanyo Ave
Ex+Otay Crossings - Units 1-4- PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	4	78	51	4	299	95	79	126	2	39	26	35
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	5	90	59	5	344	109	91	145	2	45	30	40
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2					
Volume Total (vph)	153	348	109	91	147	75	40					
Volume Left (vph)	5	5	0	91	0	45	0					
Volume Right (vph)	59	0	109	0	2	0	40					
Hadj (s)	-0.19	0.04	-0.67	0.53	0.02	0.33	-0.67					
Departure Headway (s)	6.0	5.8	5.1	6.9	6.4	6.9	5.9					
Degree Utilization, x	0.25	0.56	0.16	0.17	0.26	0.14	0.07					
Capacity (veh/h)	562	597	671	489	527	476	550					
Control Delay (s)	11.0	14.9	7.9	10.2	10.4	9.9	8.1					
Approach Delay (s)	11.0	13.2		10.3		9.3						
Approach LOS	B	B		B		A						
Intersection Summary												
Delay			11.7									
HCM Level of Service			B									
Intersection Capacity Utilization			37.7%	ICU Level of Service		A						
Analysis Period (min)			15									

040501 - Otay Crossings

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	192	46	5	125	33	9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	213	51	6	139	37	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			264		389	239
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			264		389	239
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		94	99
cM capacity (veh/h)			1300		612	800
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	264	144	37	10		
Volume Left	0	6	37	0		
Volume Right	51	0	0	10		
cSH	1700	1300	612	800		
Volume to Capacity	0.16	0.00	0.06	0.01		
Queue Length 95th (ft)	0	0	5	1		
Control Delay (s)	0.0	0.3	11.3	9.6		
Lane LOS		A	B	A		
Approach Delay (s)	0.0	0.3	10.9			
Approach LOS			B			
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			22.9%		ICU Level of Service	A
Analysis Period (min)			15			

040501 - Otay Crossings

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	99	29	26	326	82	10
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	114	33	30	375	94	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			147		565	130
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			147		565	130
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		80	99
cM capacity (veh/h)			1435		476	919
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	147	405	94	11		
Volume Left	0	30	94	0		
Volume Right	33	0	0	11		
cSH	1700	1435	476	919		
Volume to Capacity	0.09	0.02	0.20	0.01		
Queue Length 95th (ft)	0	2	18	1		
Control Delay (s)	0.0	0.7	14.4	9.0		
Lane LOS		A	B	A		
Approach Delay (s)	0.0	0.7	13.8			
Approach LOS			B			
Intersection Summary						
Average Delay			2.7			
Intersection Capacity Utilization			40.1%		ICU Level of Service	A
Analysis Period (min)			15			

040501 - Otay Crossings

22: Airway Rd & Michael Faraday Dr
Ex+Otay Crossings - Units 1-4- AM

























	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩			↩	↩	↩
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	137	37	4	119	23	11
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	176	47	5	153	29	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			223		362	199
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			223		362	199
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		95	98
cM capacity (veh/h)			1346		635	842
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	223	158	29	14		
Volume Left	0	5	29	0		
Volume Right	47	0	0	14		
cSH	1700	1346	635	842		
Volume to Capacity	0.13	0.00	0.05	0.02		
Queue Length 95th (ft)	0	0	4	1		
Control Delay (s)	0.0	0.3	11.0	9.4		
Lane LOS		A	B	A		
Approach Delay (s)	0.0	0.3	10.4			
Approach LOS			B			
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			19.5%		ICU Level of Service	A
Analysis Period (min)			15			

040501 - Otay Crossings

22: Airway Rd & Michael Faraday Dr
Ex+Otay Crossings - Units 1-4- PM

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩			↩	↩	↩
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	56	36	1	275	55	1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	67	43	1	327	65	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)				1314		
pX, platoon unblocked						
vC, conflicting volume			110		418	88
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			110		418	88
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		89	100
cM capacity (veh/h)			1481		591	970
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	110	329	65	1		
Volume Left	0	1	65	0		
Volume Right	43	0	0	1		
cSH	1700	1481	591	970		
Volume to Capacity	0.06	0.00	0.11	0.00		
Queue Length 95th (ft)	0	0	9	0		
Control Delay (s)	0.0	0.0	11.8	8.7		
Lane LOS		A	B	A		
Approach Delay (s)	0.0	0.0	11.8			
Approach LOS			B			
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization			25.3%		ICU Level of Service	A
Analysis Period (min)			15			

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Fr _t			0.850				0.850		0.880		0.942	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1770	1504	1770	1863	1583	1770	3115	0	1770	3334	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1770	1504	1770	1863	1583	1770	3115	0	1770	3334	0
Satd. Flow (RTOR)			34			246		247			41	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	3	117	27	29	30	226	59	85	386	746	52	33
Adj. Flow (vph)	4	127	34	32	33	246	74	106	420	811	65	41
Lane Group Flow (vph)	4	127	34	32	33	246	74	526	0	811	106	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Total Split (s)	9.5	21.0	21.0	9.0	20.5	20.5	12.3	21.0	0.0	49.0	57.7	0.0
Act Effct Green (s)	5.6	11.8	11.8	5.0	15.1	15.1	42.2	13.2		45.1	19.5	
Actuated g/C Ratio	0.06	0.14	0.14	0.06	0.17	0.17	0.47	0.15		0.52	0.22	
v/c Ratio	0.04	0.53	0.15	0.33	0.10	0.52	0.09	0.94dr		0.89	0.14	
Control Delay	47.0	45.3	14.0	53.7	32.7	9.0	10.3	27.8		35.7	27.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	47.0	45.3	14.0	53.7	32.7	9.0	10.3	27.8		35.7	27.8	
LOS	D	D	B	D	C	A	B	C		D	C	
Approach Delay		38.9			16.2			25.6			34.8	
Approach LOS		D			B			C			C	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 87.3

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 29.4

Intersection LOS: C









Intersection Capacity Utilization 79.5%

ICU Level of Service D

























Analysis Period (min) 15

dr² Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 23: Airway Rd & Enrico Fermi Dr

 ø1	 ø2	 ø3	 ø4
49 s	21 s	9 s	21 s
 ø6	 ø5	 ø7	 ø8
57.7 s	12.3 s	9.5 s	20.5 s

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Fr _t			0.850			0.850		0.928			0.894	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1770	1504	1770	1863	1583	1770	3284	0	1770	3164	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1770	1504	1770	1863	1583	1770	3284	0	1770	3164	0
Satd. Flow (RTOR)			16			871		109			133	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	2	43	13	100	100	799	70	97	89	306	46	109
Adj. Flow (vph)	2	52	16	122	122	974	85	118	109	373	56	133
Lane Group Flow (vph)	2	52	16	122	122	974	85	227	0	373	189	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Total Split (s)	15.5	27.5	27.5	15.5	27.5	27.5	20.9	31.5	0.0	15.5	26.1	0.0
Act Effct Green (s)	6.2	17.6	17.6	14.5	29.8	29.8	11.7	11.2		34.8	36.4	
Actuated g/C Ratio	0.07	0.20	0.20	0.16	0.33	0.33	0.13	0.12		0.39	0.40	
v/c Ratio	0.02	0.15	0.05	0.43	0.20	0.88	0.37	0.45		0.54	0.14	
Control Delay	39.0	25.7	9.4	38.9	18.9	13.0	39.8	21.7		32.5	11.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	39.0	25.7	9.4	38.9	18.9	13.0	39.8	21.7		32.5	11.0	
LOS	D	C	A	D	B	B	D	C		C	B	
Approach Delay		22.4			16.2			26.7			25.3	
Approach LOS		C			B			C			C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 20.2









Intersection LOS: C

Intersection Capacity Utilization 68.3%

















ICU Level of Service C

Analysis Period (min) 15

















Splits and Phases: 23: Airway Rd & Enrico Fermi Rd

			
ø1	ø2	ø3	ø4
15.5 s	31.5 s	15.5 s	27.5 s
			
ø6	ø5	ø7	ø8
26.1 s	20.9 s	15.5 s	27.5 s

040501 - Otay Crossings

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	5	2	0	10	2	93	0	9	2	236	39	4
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	6	2	0	11	2	107	0	10	2	271	45	5
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	8	121	13	321								
Volume Left (vph)	6	11	0	271								
Volume Right (vph)	0	107	2	5								
Hadj (s)	0.18	-0.48	0.01	0.21								
Departure Headway (s)	5.0	4.2	4.6	4.4								
Degree Utilization, x	0.01	0.14	0.02	0.39								
Capacity (veh/h)	658	788	748	789								
Control Delay (s)	8.1	7.9	7.6	10.3								
Approach Delay (s)	8.1	7.9	7.6	10.3								
Approach LOS	A	A	A	B								
Intersection Summary												
Delay			9.5									
HCM Level of Service			A									
Intersection Capacity Utilization		35.0%			ICU Level of Service				A			
Analysis Period (min)		15										

040501 - Otay Crossings

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	5	10	0	9	3	121	0	61	1	178	183	10
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	6	12	0	11	4	149	0	75	1	220	226	12
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	19	164	77	458								
Volume Left (vph)	6	11	0	220								
Volume Right (vph)	0	149	1	12								
Hadj (s)	0.10	-0.50	0.12	0.16								
Departure Headway (s)	5.6	4.7	5.0	4.6								
Degree Utilization, x	0.03	0.22	0.11	0.59								
Capacity (veh/h)	570	688	667	755								
Control Delay (s)	8.7	9.0	8.6	14.0								
Approach Delay (s)	8.7	9.0	8.6	14.0								
Approach LOS	A	A	A	B								
Intersection Summary												
Delay			12.2									
HCM Level of Service			B									
Intersection Capacity Utilization			41.8%		ICU Level of Service					A		
Analysis Period (min)			15									

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↘↙	↑↑↑		↗↖
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	0.91	0.97	0.91	1.00	0.88
Frt	0.986					0.850
Flt Protected			0.950			
Satd. Flow (prot)	5014	0	3433	5085	0	2787
Flt Permitted			0.950			
Satd. Flow (perm)	5014	0	3433	5085	0	2787
Satd. Flow (RTOR)	19					940
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	468	46	230	702	0	280
Adj. Flow (vph)	514	51	253	771	0	308
Lane Group Flow (vph)	565	0	253	771	0	308
Turn Type			Prot			custom
Protected Phases	2		1	6		
Permitted Phases						8
Total Split (s)	33.0	0.0	25.0	58.0	0.0	32.0
Act Effct Green (s)	60.1		11.9	76.0		6.0
Actuated g/C Ratio	0.67		0.13	0.84		0.07
v/c Ratio	0.17		0.56	0.18		0.29
Control Delay	5.8		40.1	1.1		0.7
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	5.8		40.1	1.1		0.7
LOS	A		D	A		A
Approach Delay	5.8			10.8		
Approach LOS	A			B		

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 66 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 7.6

Intersection LOS: A

Intersection Capacity Utilization 26.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 28: Siempre Viva Rd & SR905 SB Off to Siempre Viva EB

↙ ø1	→ ø2	
25 s	33 s	
← ø6		↗ ø8
58 s		32 s

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↘↙	↑↑↑		↗↖
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	0.91	0.97	0.91	1.00	0.88
Frt	0.937					0.850
Flt Protected			0.950			
Satd. Flow (prot)	4765	0	3433	5085	0	2787
Flt Permitted			0.950			
Satd. Flow (perm)	4765	0	3433	5085	0	2787
Satd. Flow (RTOR)	214					1005
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	444	322	438	669	0	175
Adj. Flow (vph)	522	379	515	787	0	206
Lane Group Flow (vph)	901	0	515	787	0	206
Turn Type			Prot			custom
Protected Phases	2		1	6		
Permitted Phases						8
Total Split (s)	32.8	0.0	28.7	61.5	0.0	28.5
Act Effct Green (s)	47.3		24.7	76.0		6.0
Actuated g/C Ratio	0.53		0.27	0.84		0.07
v/c Ratio	0.35		0.55	0.18		0.18
Control Delay	9.6		26.0	1.3		0.4
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	9.6		26.0	1.3		0.4
LOS	A		C	A		A
Approach Delay	9.6			11.1		
Approach LOS	A			B		

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 29 (32%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.55

Intersection Signal Delay: 9.6

Intersection LOS: A







Intersection Capacity Utilization 35.0%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 28: Siempre Viva Road & SR905 SB Off Ramp to Siempre Viva EB







→ ø2	↘ ø1	
32.8 s	28.7 s	
← ø6		↗ ø8
61.5 s		28.5 s



















							
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		↑↑↑	↑↑↑			↗	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Volume (veh/h)	0	748	568	0	0	364	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	
Hourly flow rate (vph)	0	860	653	0	0	418	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type					None		
Median storage veh							
Upstream signal (ft)		281	733				
pX, platoon unblocked					0.98		
vC, conflicting volume	653				939	218	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	653				905	218	
tC, single (s)	4.1				6.8	6.9	
tC, 2 stage (s)							
tF (s)	2.2				3.5	3.3	
p0 queue free %	100				100	47	
cM capacity (veh/h)	930				272	787	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	287	287	287	218	218	218	418
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	418
cSH	1700	1700	1700	1700	1700	1700	787
Volume to Capacity	0.17	0.17	0.17	0.13	0.13	0.13	0.53
Queue Length 95th (ft)	0	0	0	0	0	0	80
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	14.7
Lane LOS							B
Approach Delay (s)	0.0			0.0			14.7
Approach LOS							B
Intersection Summary							
Average Delay			3.2				
Intersection Capacity Utilization			40.2%		ICU Level of Service		A
Analysis Period (min)			15				

29: Siempre Viva Road & SR905 SB Off Ramp to Siempre Viva WB

040501 - Otay Crossings

Ex+Otay Crossings - Units 1-4- PM

							
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		↑↑↑	↑↑↑			↑	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Volume (veh/h)	0	619	731	0	0	376	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	
Hourly flow rate (vph)	0	666	786	0	0	404	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type					None		
Median storage veh							
Upstream signal (ft)		225	412				
pX, platoon unblocked	0.96				0.96	0.96	
vC, conflicting volume	786				1008	262	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	689				920	142	
tC, single (s)	4.1				6.8	6.9	
tC, 2 stage (s)							
tF (s)	2.2				3.5	3.3	
p0 queue free %	100				100	52	
cM capacity (veh/h)	863				259	843	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	222	222	222	262	262	262	404
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	404
cSH	1700	1700	1700	1700	1700	1700	843
Volume to Capacity	0.13	0.13	0.13	0.15	0.15	0.15	0.48
Queue Length 95th (ft)	0	0	0	0	0	0	66
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	13.1
Lane LOS							B
Approach Delay (s)	0.0			0.0			13.1
Approach LOS							B
Intersection Summary							
Average Delay			2.9				
Intersection Capacity Utilization			44.1%		ICU Level of Service		A
Analysis Period (min)			15				

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	1.00	1.00	0.88	1.00	1.00	1.00
Frt					0.992	0.850			0.850			
Flt Protected	0.950							0.953				
Satd. Flow (prot)	3433	5085	0	0	4767	1362	0	1775	2787	0	0	0
Flt Permitted	0.950							0.953				
Satd. Flow (perm)	3433	5085	0	0	4767	1362	0	1775	2787	0	0	0
Satd. Flow (RTOR)					9	159			341			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	125	613	0	0	410	175	164	1	327	0	0	0
Adj. Flow (vph)	130	639	0	0	427	182	171	1	341	0	0	0
Lane Group Flow (vph)	130	639	0	0	450	159	0	172	341	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Total Split (s)	24.0	56.5	0.0	0.0	32.5	32.5	33.5	33.5	33.5	0.0	0.0	0.0
Act Effct Green (s)	9.0	67.9			54.9	54.9		14.1	14.1			
Actuated g/C Ratio	0.10	0.75			0.61	0.61		0.16	0.16			
v/c Ratio	0.38	0.17			0.15	0.18		0.62	0.47			
Control Delay	37.8	1.5			8.4	2.3		44.5	5.9			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	37.8	1.5			8.4	2.3		44.5	5.9			
LOS	D	A			A	A		D	A			
Approach Delay		7.6			6.8			18.8				
Approach LOS		A			A			B				

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 77 (86%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 10.4





Intersection LOS: B



















Intersection Capacity Utilization 40.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 30: Siempre Viva Rd & SR 905 NB On Ramp

	
ø2	ø8
56.5 s	33.5 s
	
ø6	ø5
32.5 s	24 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	1.00	1.00	0.88	1.00	1.00	1.00
Frts					0.986	0.850			0.850			
Flt Protected	0.950							0.954				
Satd. Flow (prot)	3433	5085	0	0	4739	1362	0	1777	2787	0	0	0
Flt Permitted	0.950							0.954				
Satd. Flow (perm)	3433	5085	0	0	4739	1362	0	1777	2787	0	0	0
Satd. Flow (RTOR)					20	326			243			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	297	352	0	0	677	373	49	2	226	0	0	0
Adj. Flow (vph)	319	378	0	0	728	401	53	2	243	0	0	0
Lane Group Flow (vph)	319	378	0	0	803	326	0	55	243	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Total Split (s)	26.1	61.5	0.0	0.0	35.4	35.4	28.5	28.5	28.5	0.0	0.0	0.0
Act Effct Green (s)	14.5	73.5			55.0	55.0		8.5	8.5			
Actuated g/C Ratio	0.16	0.82			0.61	0.61		0.09	0.09			
v/c Ratio	0.58	0.09			0.28	0.34		0.33	0.50			
Control Delay	32.3	0.9			8.9	2.3		42.7	9.1			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	32.3	0.9			8.9	2.3		42.7	9.1			
LOS	C	A			A	A		D	A			
Approach Delay		15.2			7.0			15.3				
Approach LOS		B			A			B				

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 66 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 10.9





Intersection LOS: B
























Intersection Capacity Utilization 44.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 30: Siempre Viva Road & SR905 NB On Ramp

	
ø2	ø8
61.5 s	28.5 s
	
ø5	ø6
26.1 s	35.4 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Fr't			0.850						0.850		0.932	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3539	0	1770	3539	1583	1770	3299	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5085	1583	1770	3539	0	1770	3539	1583	1770	3299	0
Satd. Flow (RTOR)			154						5		58	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	517	445	140	21	283	1	120	51	5	8	64	53
Adj. Flow (vph)	568	489	154	23	311	1	132	56	5	9	70	58
Lane Group Flow (vph)	568	489	154	23	312	0	132	56	5	9	128	0
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Total Split (s)	36.0	48.1	48.1	9.4	21.5	0.0	12.0	24.0	24.0	8.5	20.5	0.0
Act Effct Green (s)	27.7	40.4	40.4	5.4	12.0		8.1	18.4	18.4	4.6	7.7	
Actuated g/C Ratio	0.39	0.56	0.56	0.07	0.17		0.11	0.26	0.26	0.06	0.11	
v/c Ratio	0.83	0.17	0.16	0.19	0.53		0.66	0.06	0.01	0.09	0.32	
Control Delay	32.9	8.4	2.4	39.7	31.8		51.8	24.7	17.4	39.9	21.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	32.9	8.4	2.4	39.7	31.8		51.8	24.7	17.4	39.9	21.6	
LOS	C	A	A	D	C		D	C	B	D	C	
Approach Delay		19.1			32.3			43.0			22.8	
Approach LOS		B			C			D			C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 71.8

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 24.2









Intersection LOS: C

Intersection Capacity Utilization 59.8%

ICU Level of Service B

Analysis Period (min) 15





























Splits and Phases: 32: Siempre Viva Rd & Paseo De Las Americas

			
ø1	ø2	ø3	ø4
9.4 s	48.1 s	12 s	20.5 s
			
ø5	ø6	ø7	ø8
36 s	21.5 s	8.5 s	24 s

32: Siempre Viva Road & Paseo De Las Americas

040501 - Otay Crossings

Ex+Otay Crossings - Units 1-4- PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 			 			 	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.995				0.850		0.926	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3522	0	1770	3539	1583	1770	3277	0
Flt Permitted	0.950			0.950			0.459			0.666		
Satd. Flow (perm)	1770	5085	1583	1770	3522	0	855	3539	1583	1241	3277	0
Satd. Flow (RTOR)			67		3				8		89	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	630	145	59	30	374	14	269	120	7	6	80	78
Adj. Flow (vph)	716	165	67	34	425	16	306	136	8	7	91	89
Lane Group Flow (vph)	716	165	67	34	441	0	306	136	8	7	180	0
Turn Type	Prot		Perm	Prot			pm+pt		Perm	pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2				8		8	4		
Total Split (s)	57.0	67.3	67.3	10.6	20.9	0.0	21.6	31.0	31.0	11.1	20.5	0.0
Act Effct Green (s)	46.0	60.4	60.4	6.6	16.0		29.5	27.5	27.5	15.6	9.1	
Actuated g/C Ratio	0.44	0.58	0.58	0.06	0.15		0.28	0.26	0.26	0.14	0.09	
v/c Ratio	0.91	0.06	0.07	0.32	0.81		0.79	0.15	0.02	0.03	0.49	
Control Delay	44.9	10.8	3.2	60.1	56.7		50.4	33.1	19.1	33.0	30.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	44.9	10.8	3.2	60.1	56.7		50.4	33.1	19.1	33.0	30.1	
LOS	D	B	A	E	E		D	C	B	C	C	
Approach Delay		36.0			57.0			44.6			30.2	
Approach LOS		D			E			D			C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 103.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 42.2









Intersection Capacity Utilization 78.6%

Analysis Period (min) 15




















Intersection LOS: D




















ICU Level of Service D

Splits and Phases: 32: Siempre Viva Road & Paseo De Las Americas





















			
ø1	ø2	ø3	ø4
10.6 s	67.3 s	21.6 s	20.5 s
			
ø5	ø6	ø7	ø8
57 s	20.9 s	11.1 s	31 s

040501 - Otay Crossings

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	54	292	62	20	231	1	21	17	22	2	5	27
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	64	348	74	24	275	1	25	20	26	2	6	32
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)		1276										
pX, platoon unblocked												
vC, conflicting volume	276			421			733	837	211	662	873	138
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	276			421			733	837	211	662	873	138
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			98			91	93	97	99	98	96
cM capacity (veh/h)	1284			1134			277	280	795	300	267	885
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2			
Volume Total	64	232	190	24	183	93	71	8	32			
Volume Left	64	0	0	24	0	0	25	2	0			
Volume Right	0	0	74	0	0	1	26	0	32			
cSH	1284	1700	1700	1134	1700	1700	365	276	885			
Volume to Capacity	0.05	0.14	0.11	0.02	0.11	0.05	0.20	0.03	0.04			
Queue Length 95th (ft)	4	0	0	2	0	0	18	2	3			
Control Delay (s)	8.0	0.0	0.0	8.2	0.0	0.0	17.2	18.5	9.2			
Lane LOS	A			A			C	C	A			
Approach Delay (s)	1.1			0.7			17.2	11.1				
Approach LOS							C	B				
Intersection Summary												
Average Delay			2.7									
Intersection Capacity Utilization			33.5%			ICU Level of Service			A			
Analysis Period (min)			15									

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	39	89	20	17	283	5	51	15	0	1	19	52
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	43	98	22	19	311	5	56	16	0	1	21	57
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)		1290			1303							
pX, platoon unblocked												
vC, conflicting volume	316			120			455	548	60	494	557	158
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	316			120			455	548	60	494	557	158
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			99			87	96	100	100	95	93
cM capacity (veh/h)	1240			1466			423	422	993	429	417	859
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2			
Volume Total	43	65	55	19	207	109	73	22	57			
Volume Left	43	0	0	19	0	0	56	1	0			
Volume Right	0	0	22	0	0	5	0	0	57			
cSH	1240	1700	1700	1466	1700	1700	423	418	859			
Volume to Capacity	0.03	0.04	0.03	0.01	0.12	0.06	0.17	0.05	0.07			
Queue Length 95th (ft)	3	0	0	1	0	0	15	4	5			
Control Delay (s)	8.0	0.0	0.0	7.5	0.0	0.0	15.3	14.1	9.5			
Lane LOS	A			A			C	B	A			
Approach Delay (s)	2.1			0.4			15.3	10.8				
Approach LOS							C	B				
Intersection Summary												
Average Delay			3.8									
Intersection Capacity Utilization			31.6%				ICU Level of Service			A		
Analysis Period (min)			15									

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.917			0.993			0.997			0.901	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	1708	0	1863	3514	0	1770	3529	0	1863	3189	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	1708	0	1863	3514	0	1770	3529	0	1863	3189	0
Satd. Flow (RTOR)		5			5			2			52	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	280	3	4	0	80	4	9	131	2	0	21	40
Adj. Flow (vph)	364	4	5	0	104	5	12	170	3	0	27	52
Lane Group Flow (vph)	364	9	0	0	109	0	12	173	0	0	79	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Total Split (s)	22.0	33.0	0.0	15.0	26.0	0.0	15.0	27.0	0.0	15.0	27.0	0.0
Act Effct Green (s)	10.0	16.0			7.2		6.6	14.6			13.1	
Actuated g/C Ratio	0.27	0.43			0.18		0.15	0.42			0.37	
v/c Ratio	0.40	0.01			0.17		0.04	0.12			0.06	
Control Delay	13.2	4.4			15.5		20.2	11.5			9.1	
Queue Delay	0.0	0.0			0.0		0.0	0.0			0.0	
Total Delay	13.2	4.4			15.5		20.2	11.5			9.1	
LOS	B	A			B		C	B			A	
Approach Delay		13.0			15.5			12.0			9.1	
Approach LOS		B			B			B			A	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 35.1

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.40

Intersection Signal Delay: 12.7









Intersection Capacity Utilization 28.5%





















Analysis Period (min) 15

Intersection LOS: B

ICU Level of Service A

Splits and Phases: 34: Siempre Viva Rd & Enrico Fermi Dr

			
ø1	ø2	ø3	ø4
15 s	33 s	15 s	27 s
			
ø6	ø5	ø7	ø8
26 s	22 s	15 s	27 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.872			0.953			0.998			0.854	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1624	0	1770	3373	0	1770	3532	0	1770	3022	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1624	0	1770	3373	0	1770	3532	0	1770	3022	0
Satd. Flow (RTOR)		23			11			1			809	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	57	4	22	11	23	11	146	165	2	3	4	140
Adj. Flow (vph)	59	4	23	11	24	11	152	172	2	3	4	146
Lane Group Flow (vph)	59	27	0	11	35	0	152	174	0	3	150	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Total Split (s)	13.5	26.8	0.0	13.5	26.8	0.0	24.2	36.2	0.0	13.5	25.5	0.0
Act Effct Green (s)	7.4	9.5		6.8	6.8		11.6	48.0		6.4	32.4	
Actuated g/C Ratio	0.11	0.14		0.09	0.10		0.18	0.75		0.09	0.51	
v/c Ratio	0.16	0.11		0.07	0.10		0.47	0.07		0.02	0.08	
Control Delay	26.0	13.6		29.8	21.9		25.2	5.9		29.7	0.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	26.0	13.6		29.8	21.9		25.2	5.9		29.7	0.1	
LOS	C	B		C	C		C	A		C	A	
Approach Delay		22.1			23.8			14.9			0.7	
Approach LOS		C			C			B			A	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 63.9

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.47

Intersection Signal Delay: 13.0









Intersection Capacity Utilization 31.0%

Analysis Period (min) 15












Intersection LOS: B

ICU Level of Service A

Splits and Phases: 34: Siempre Viva Road & Enrico Fermi Rd

			
ø2	ø1	ø4	ø3
26.8 s	13.5 s	25.5 s	24.2 s
			
ø5	ø6	ø8	ø7
13.5 s	26.8 s	36.2 s	13.5 s

040501 - Otay Crossings

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.996			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1855	0	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	1855	0	1770	1863
Satd. Flow (RTOR)		5	3			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	6	5	634	19	1	166
Adj. Flow (vph)	7	5	689	21	1	180
Lane Group Flow (vph)	7	5	710	0	1	180
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Total Split (s)	25.5	25.5	51.0	0.0	13.5	64.5
Act Effct Green (s)	6.5	6.5	110.3		6.2	112.7
Actuated g/C Ratio	0.05	0.05	0.95		0.05	0.97
v/c Ratio	0.08	0.06	0.40		0.01	0.10
Control Delay	27.7	18.0	2.3		27.0	0.5
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	27.7	18.0	2.3		27.0	0.5
LOS	C	B	A		C	A
Approach Delay	23.6		2.3			0.7
Approach LOS	C		A			A

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 116.1

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.40

Intersection Signal Delay: 2.2





Intersection Capacity Utilization 44.5%

Analysis Period (min) 15












Intersection LOS: A

ICU Level of Service A

Splits and Phases: 67: Paseo De La Fuente & Alta Rd.

		
ø2	ø1	
51 s	13.5 s	
		
ø6	ø8	
64.5 s	25.5 s	

040501 - Otay Crossings

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.996			
Flt Protected	0.950					
Satd. Flow (prot)	1770	1583	1855	0	1863	1863
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1583	1855	0	1863	1863
Satd. Flow (RTOR)		2	2			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	221	2	98	3	0	506
Adj. Flow (vph)	273	2	121	4	0	625
Lane Group Flow (vph)	273	2	125	0	0	625
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Total Split (s)	37.3	37.3	34.2	0.0	18.5	52.7
Act Effct Green (s)	12.7	12.7	24.8			24.8
Actuated g/C Ratio	0.28	0.28	0.54			0.54
v/c Ratio	0.56	0.00	0.12			0.62
Control Delay	18.3	10.5	6.4			11.4
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	18.3	10.5	6.4			11.4
LOS	B	B	A			B
Approach Delay	18.2		6.4			11.4
Approach LOS	B		A			B

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 45.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 12.6





Intersection LOS: B

Intersection Capacity Utilization 45.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 67: Paseo De La Fuente & Alta Rd

		
ø1	ø2	
18.5 s	34.2 s	
		
ø6	ø8	
52.7 s	37.3 s	

Existing + Project Units 1-4 Intersection ILV Analysis

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Heritage

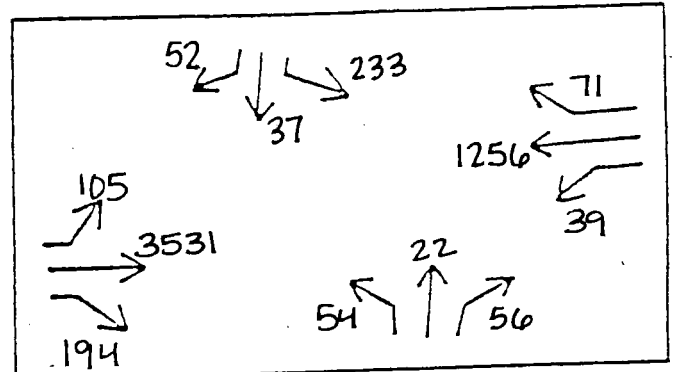
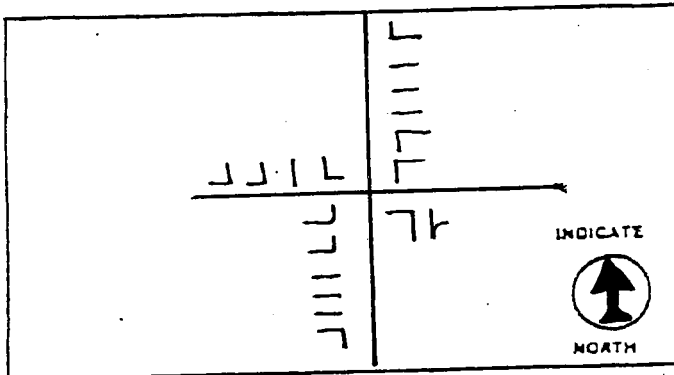
DIST. CO. RTE. P.M. 11/SD/905

BY JB DATE 4-6-10

Existing + Units 1-4

TIME AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
52	20
53	19

Phase 2	
117	21
117	419
117	419
144	418

Phase 3	
50	233
54	50

Phase 4	
16	31
19	1
78	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
53

Phase 2
1,177

Phase 3
233

Phase 4
78

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,541

Is . . .

☐ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☒ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Heritage

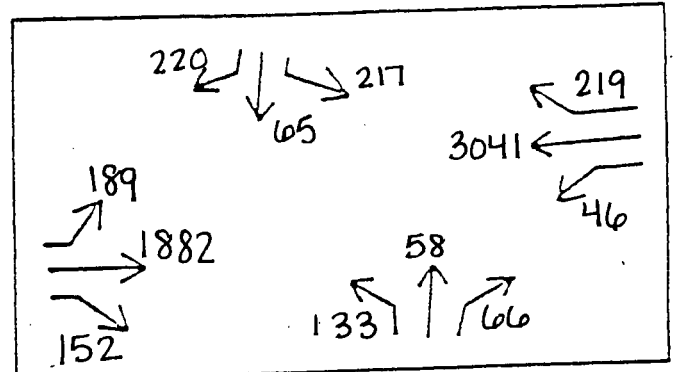
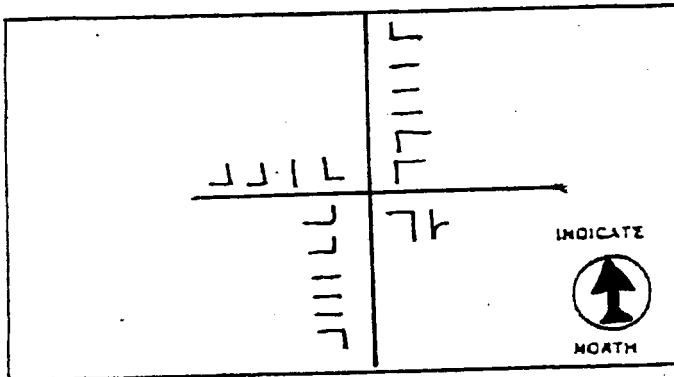
DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-4

BY JB DATE 4-6-10

TIME _____ AM (PM)

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
55 55	23 23
94 95	

Phase 2	
119 1014 1014 1013	
627 628 627 77	

Phase 3	
217 75	100 133

Phase 4	
65 70 70	
	124

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
95

Phase 2
1,014

Phase 3
217

Phase 4
124

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,450

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / Cactus

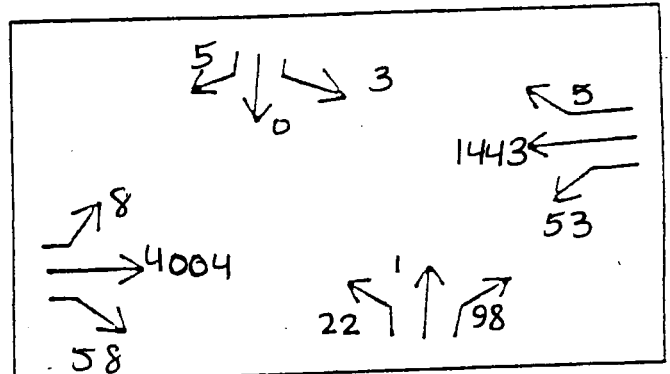
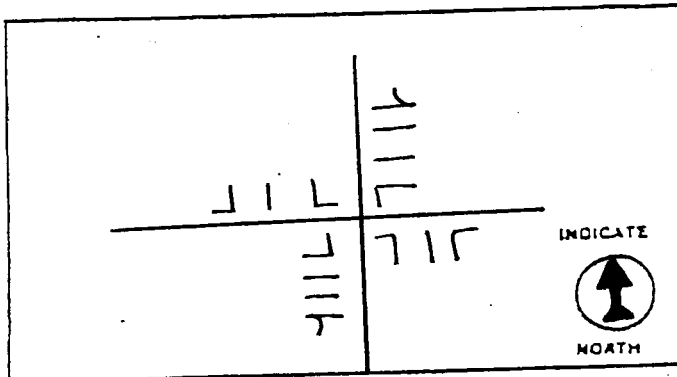
DIST. CO. RTE. P.M. 11 / SD / 905

BY DR DATE 4-6-10

TIME (AM) PM

Existing + Units 1-4

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
0	53
8	0

Phase 2	
482	483
483	483
1354	1354
1354	1354

Phase 3	
22	22

Phase 4	
50	11
58	58

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
53

Phase 2
1,354

Phase 3
22

Phase 4
58

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,487

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Cactus

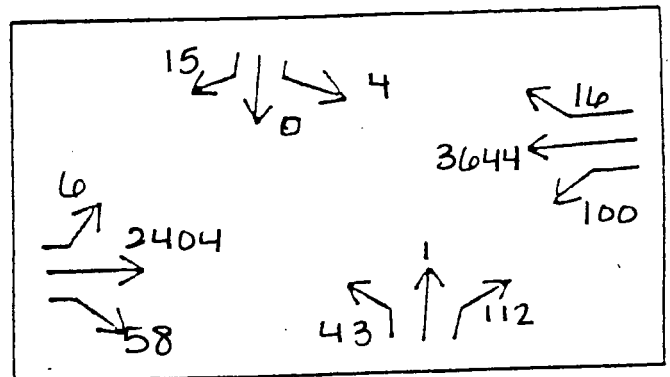
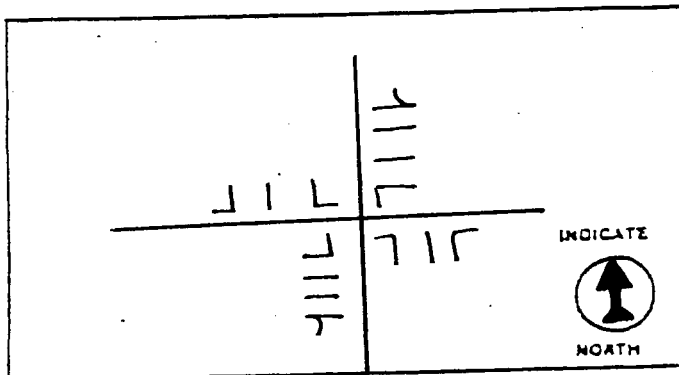
DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-4

BY UB DATE 4-6-10

TIME AM (PM)

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
0	100
6	50

Phase 2	
1220	1220
821	821
821	820

Phase 3	
5	1
43	

Phase 4	
50	1
	100

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
100

Phase 2
1,220

Phase 3
43

Phase 4
62

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,425

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

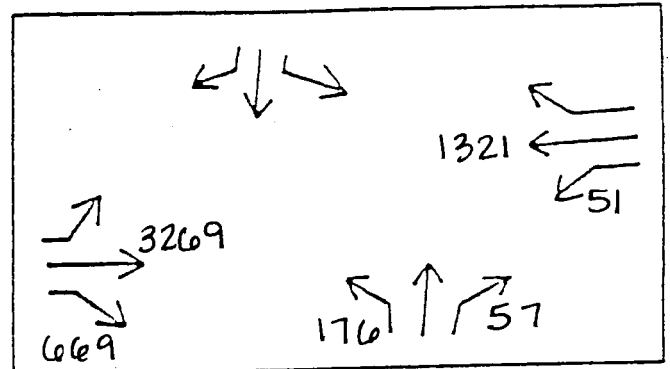
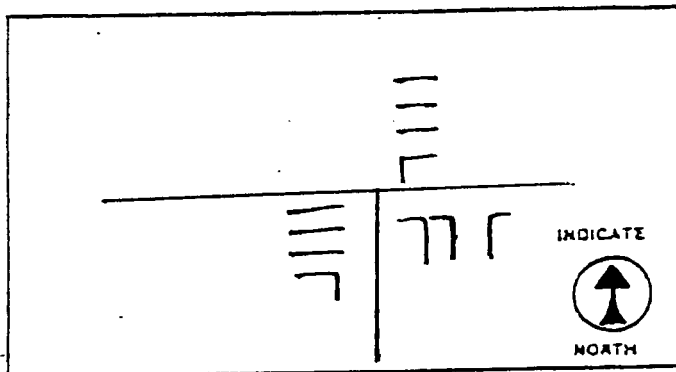
INTERSECTION Otay Mesa Rd / Britannia Blvd DIST. CO. RTE. P.M. 11/SD/905

BY VJB DATE 4-6-10

TIME AM PM

Existing + Units 1-4

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
—	51
—	51
—	51
└	51

Phase 2	
—	389
—	390
—	389
1090	—
1090	—
1089	—
581	└

Phase 3	
88	└
88	└
88	└
57	└

Phase 4	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
51

Phase 2
1,090

Phase 3
88

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,229

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

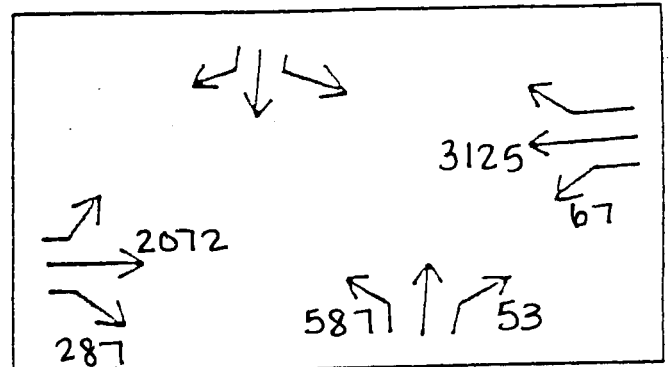
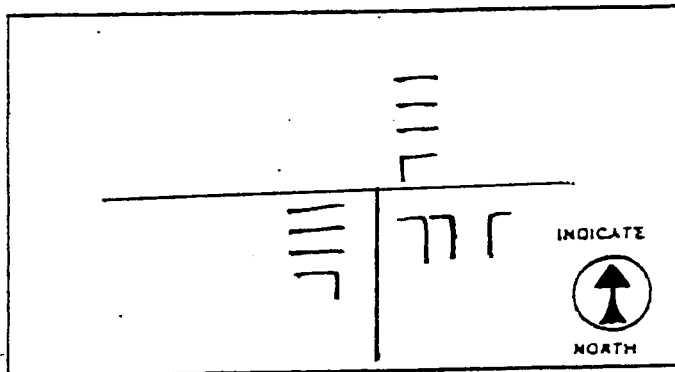
INTERSECTION Otay Mesa Rd / Britannia Blvd DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-4

BY VJB DATE 4-6-10

TIME _____ AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
<div> <div>67</div> <div>67</div> <div>67</div> <div>67</div> </div>	<div> <div>975</div> <div>975</div> <div>974</div> </div> <div> <div>691</div> <div>691</div> <div>690</div> <div>1877</div> </div>	<div> <div>100</div> <div>777</div> <div>293</div> <div>294</div> <div>53</div> </div>	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
67	975	294	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,336

- Is . . .
- ☐ < 1200 ILV/hr.
 - ☒ > 1200 but < 1500 ILV/hr.
 - ☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

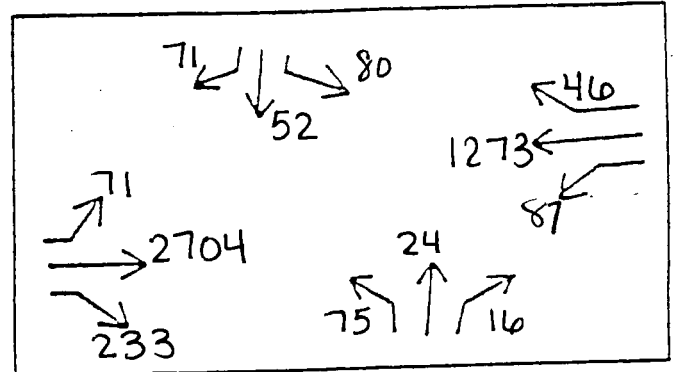
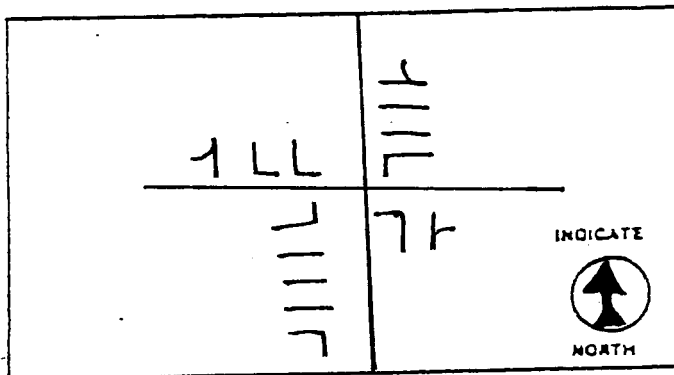
Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa Rd/La Media Rd DIST. CO. RTE. P.M. 11/SD/905
 BY JJB DATE 4-6-10
 TIME AM PM

Existing + Units 1-4

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
	87
71	

Phase 2	
	439
	440
	440
901	
902	
901	
158	

Phase 3	
75	
75	

Phase 4	
132	
	40

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
87

Phase 2
902

Phase 3
75

Phase 4
132

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,196

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

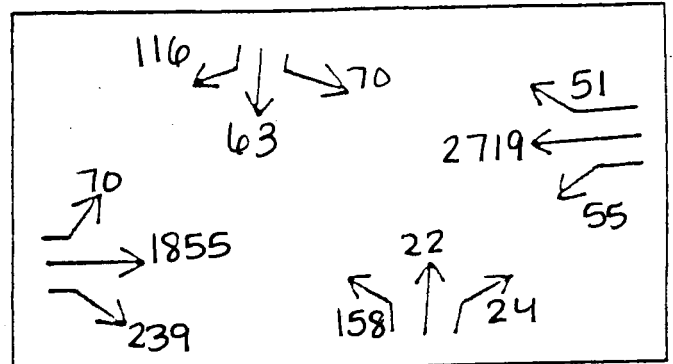
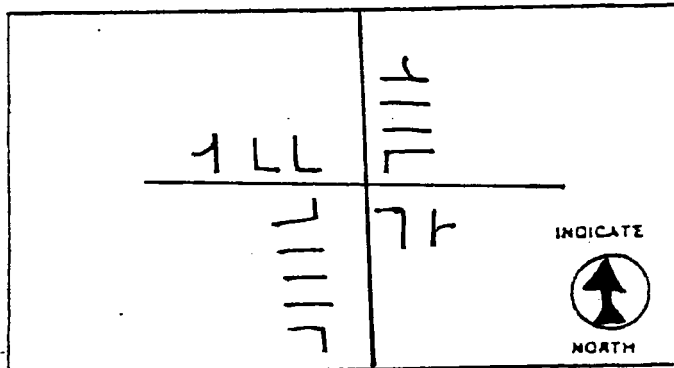
INTERSECTION Otay Mesa Rd/La Media Rd DIST. CO. RTE. P.M. 11/SD/905

BY JB DATE 4-6-10

TIME AM (PM)

Existing + Units 1-4

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
<div> <div>55</div> <div>70</div> </div>	<div> <div>923 924 923</div> <div>618 619 618 139</div> </div>	<div> <div>35 35 LL</div> <div>100 7</div> </div>	<div> <div>179 1</div> <div>416</div> </div>

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
70	924	158	179

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,331

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Piper Ranch

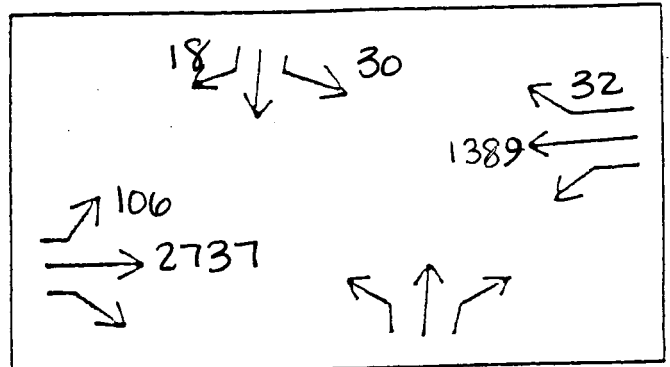
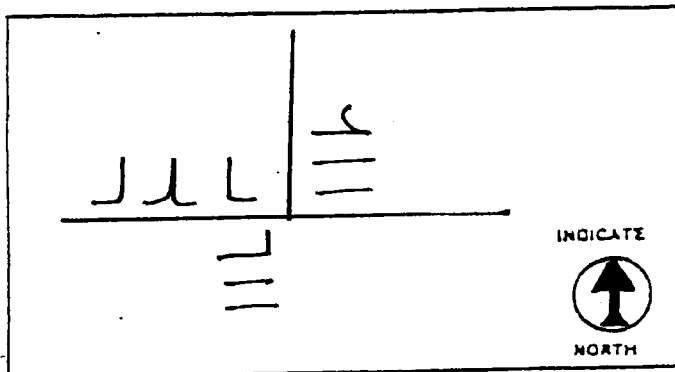
DIST. CO. RTE. P.M. 11/SD/905

BY JB DATE 4-6-10

TIME AM PM

Existing + Units 1-4

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
106	106
106	106
106	106

Phase 2	
473	474
474	474
1263	1262

Phase 3	
6	6
6	6
6	6

Phase 4	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
106

Phase 2
1,263

Phase 3
16

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,385

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Piper Ranch

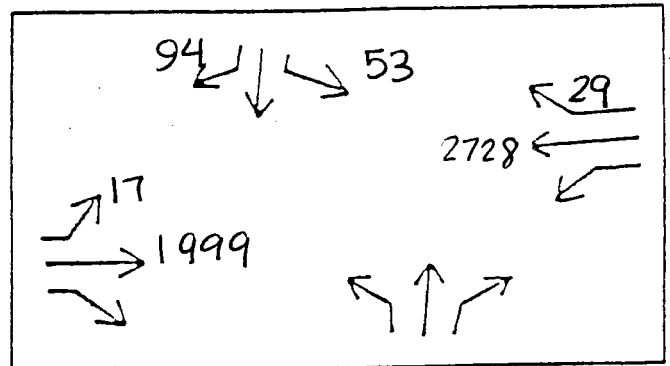
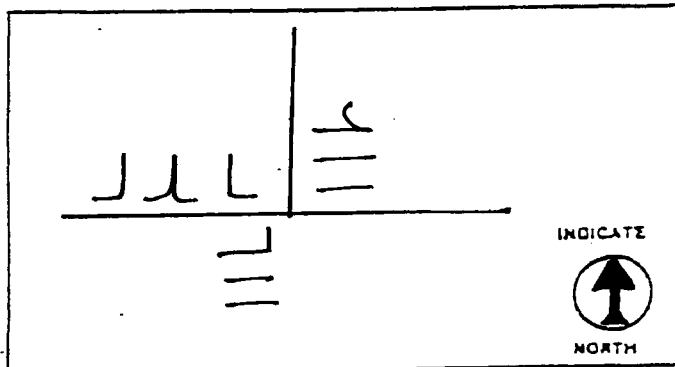
DIST. CO. RTE. P.M. 11/SD/905

BY JB DATE 4-6-10

TIME _____ AM PM

Existing + Units 1-4

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
<div style="display: flex; justify-content: space-between;"> <div> <p>17</p> <p>17</p> <p>17</p> </div> <div> <p>919</p> <p>919</p> <p>919</p> </div> </div>	<div style="display: flex; justify-content: space-between;"> <div> <p>982</p> <p>983</p> </div> <div> <p>919</p> <p>919</p> <p>919</p> </div> </div>	<div style="display: flex; justify-content: space-between;"> <div> <p>666</p> <p>111</p> </div> <div> <p>666</p> <p>111</p> </div> </div>	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
17	983	49	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,049

Is . . . ~~<~~ 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / SR-125 SB Ramp

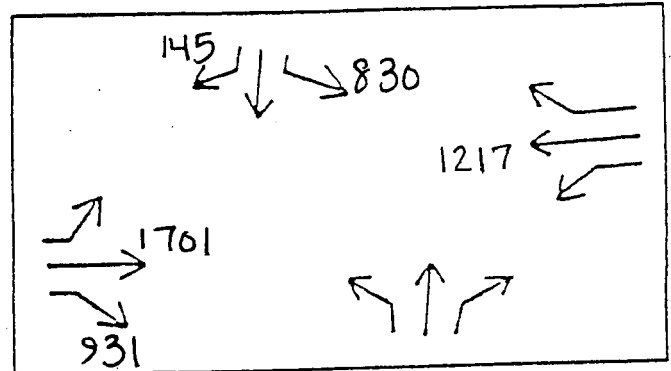
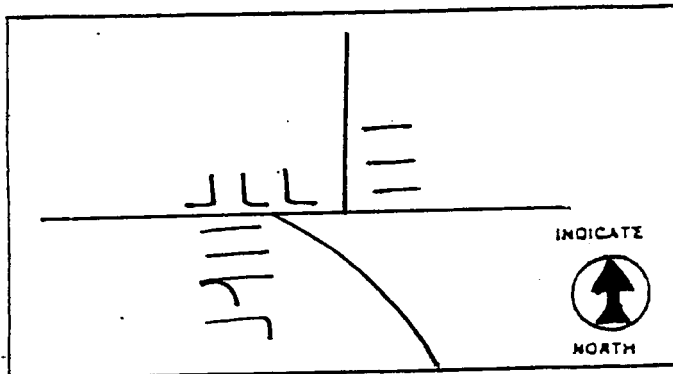
DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-4

BY DLB DATE 4-6-10

TIME (AM) PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
Through	405
Through	406
Through	406
Right Turn	567
Right Turn	567
Right Turn	567
Right Turn	516

Phase 2	
Through	415
Through	415
Through	415

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
567

Phase 2
415

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
982

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / SR-125 SB Ramp

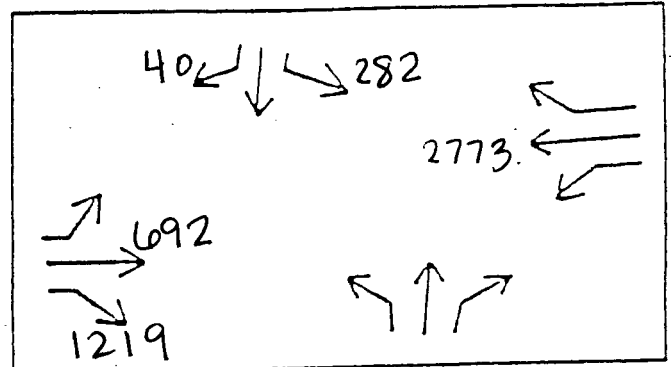
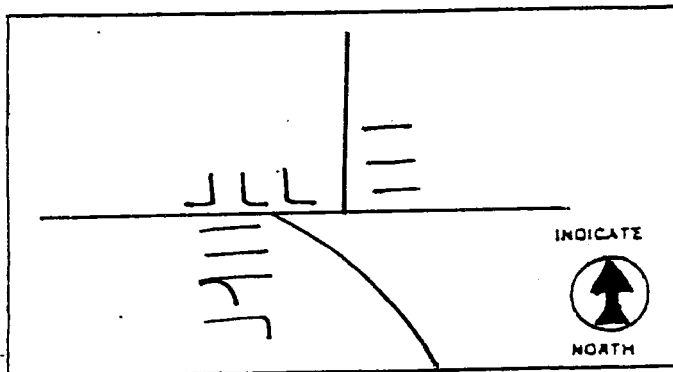
DIST. CO. RTE. P.M. 11/SD/905

BY JB DATE 4-6-10

TIME _____ AM PM

Existing + Units 1-4

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
—	924
—	925
—	924
346	—
346	—
538	—
539	—

Phase 2	
5	5
0	5
2	2
2	2
142	—

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
925

Phase 2
142

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,067

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

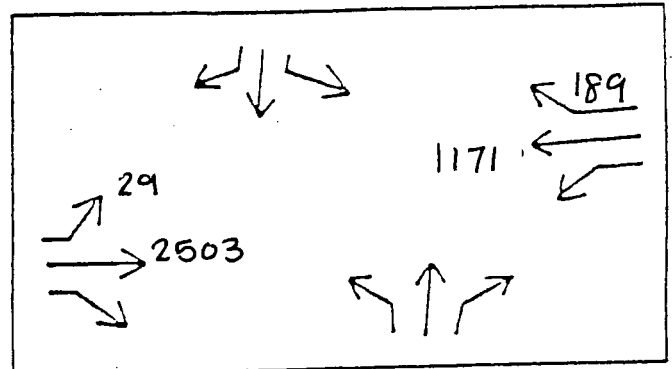
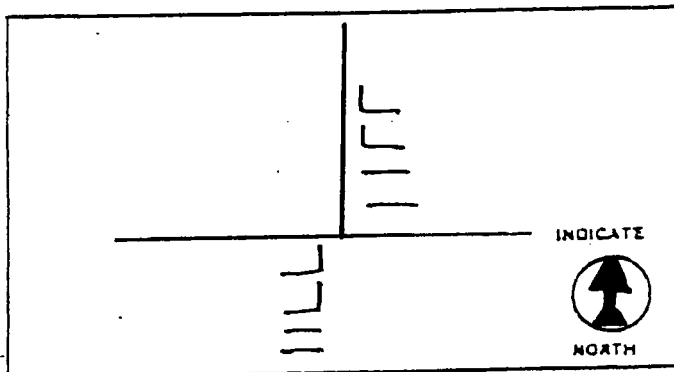
Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/SR-125 NB Ramp DIST. CO. RTE. P.M. 11/50/905
 BY JLB DATE 4-60-10
 TIME (AM) PM

Existing + Units 1-4

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
14	└─┘
15	└─┘
15	└─┘
15	└─┘

Phase 2	
	└─┘ 94
	└─┘ 95
	└─┘ 585
	└─┘ 586
1237	—
1236	—

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
15

Phase 2
1,237

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,252

- Is . . .
- ☐ < 1200 ILV/hr.
 - ☒ > 1200 but < 1500 ILV/hr.
 - ☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

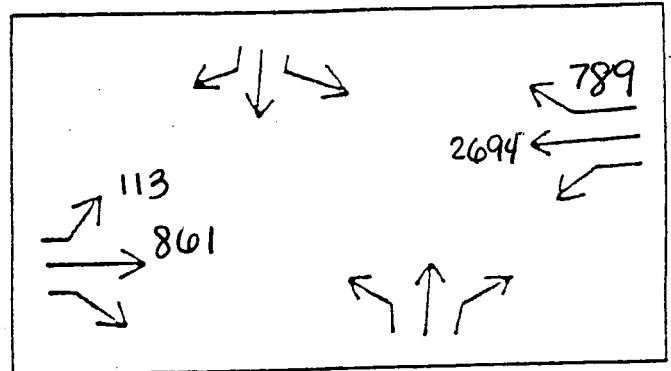
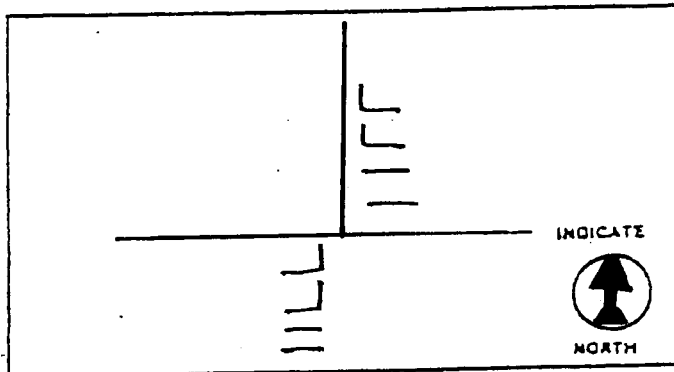
Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/SR-125 NB Ramp DIST. CO. RTE. P.M. 11/50/905
 BY JLB DATE 4-6-10
 TIME _____ AM PM

Existing + Units 1-4

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
<div> <div></div> <div>56</div> <div>57</div> <div>57</div> <div>57</div> </div>	<div> <div> <div></div> <div>394</div> <div>395</div> <div>1347</div> <div>1347</div> </div> <div> <div>373</div> <div>374</div> </div> </div>		

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
57	1,347		

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,404

- Is . . .
- ☐ < 1200 ILV/hr.
 - ☒ > 1200 but < 1500 ILV/hr.
 - ☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / SR-905 NB
Connector

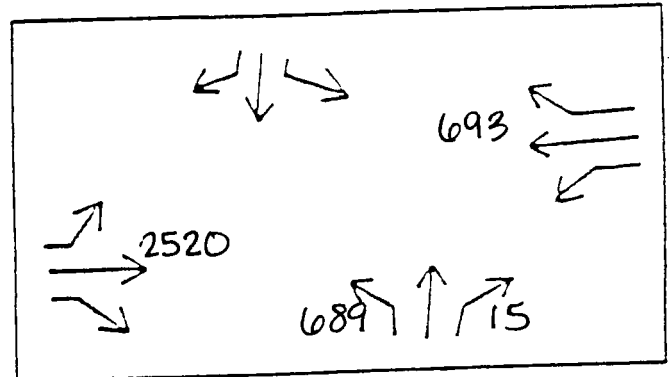
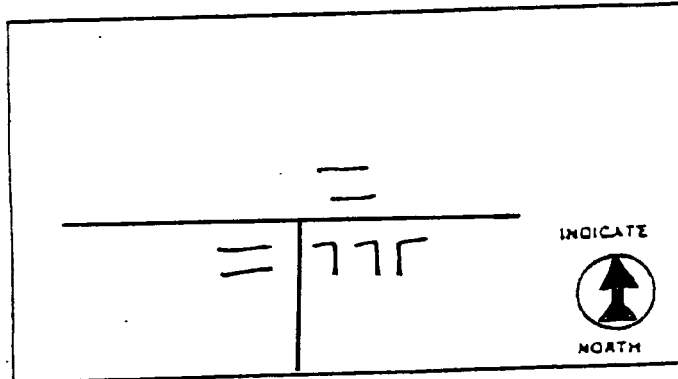
DIST. CO. RTE. P.M. 11/SD/905

BY JB DATE 4-6-10

Existing + Units 1-4

TIME (AM) PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
— 347	
— 346	
1260 —	
1260 —	

Phase 2	
777	5
345	344

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
1,260

Phase 2
345

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,605

Is . . .

☐ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☒ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / SR-905 NB
Connector

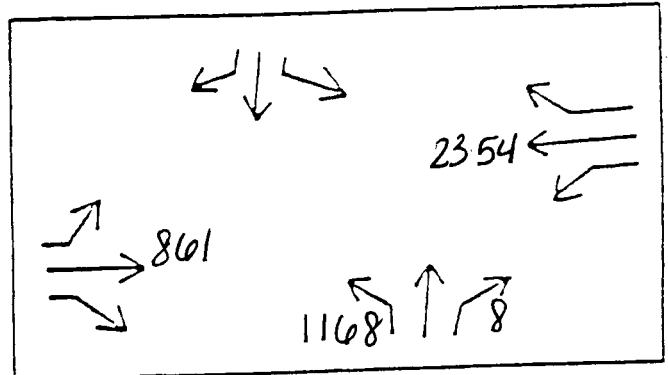
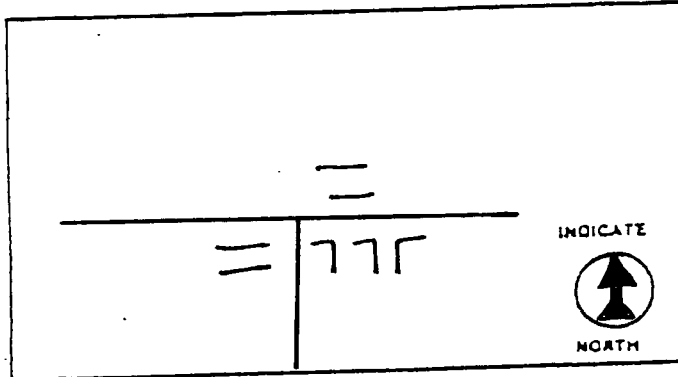
DIST. CO. RTE. P.M. 11/5D/905

BY JB DATE 4-6-10

TIME _____ AM (PM)

Existing + Units 1-4

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
1177	
1177	
430	
431	

Phase 2	
584	584
584	584

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
1,177

Phase 2
584

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,761

Is . . .

☐ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☒ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SR-905 SB
Ramp

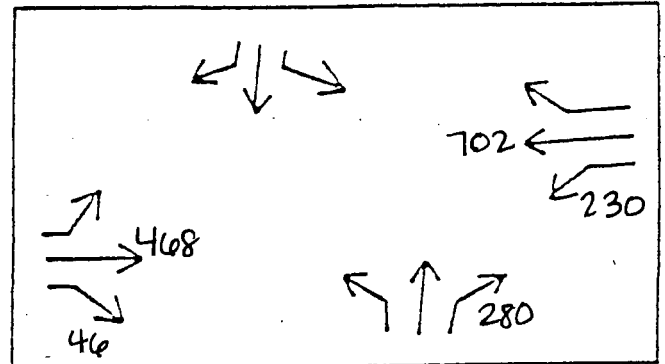
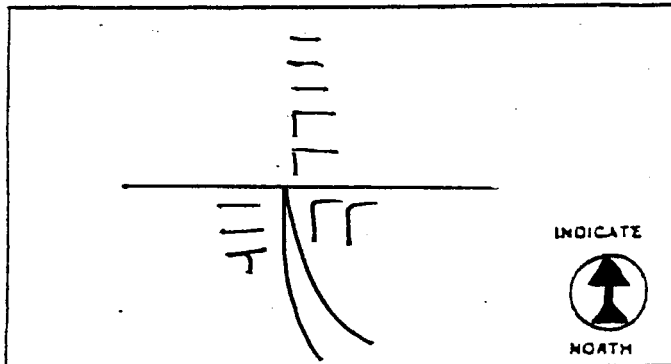
DIST. CO. RTE. P.M. 11 / SD / 905

Existing + Units 1-4

BY JB DATE 4-6-10

TIME AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1
115
115
115
115
115

Phase 2
32
32
32
171
172
171

Phase 3
83
83
83
83
83

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
115

Phase 2
172

Phase 3
83

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
370

Is . . . ☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SR-905 SB
Ramp

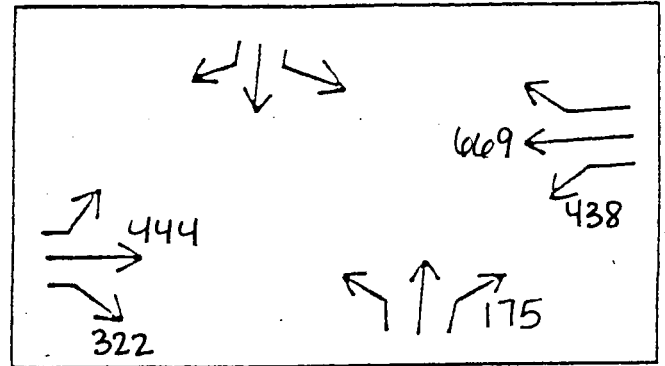
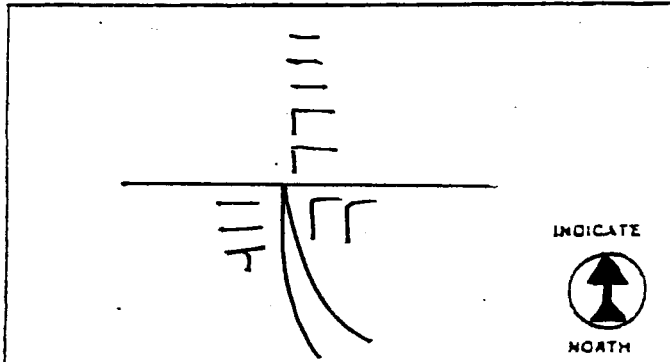
DIST. CO. RTE. P.M. 11 / SD / 905

BY JB DATE 4-6-10

TIME _____ AM (PM)

Existing + Units 1-4

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
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CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
161	322	50	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
533

Is . . . ☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SE-905 NB
Ramp

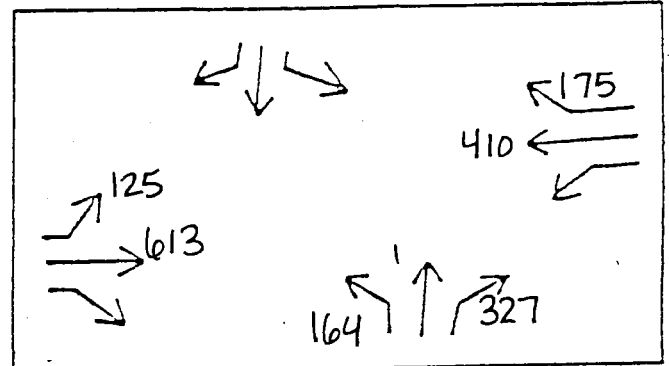
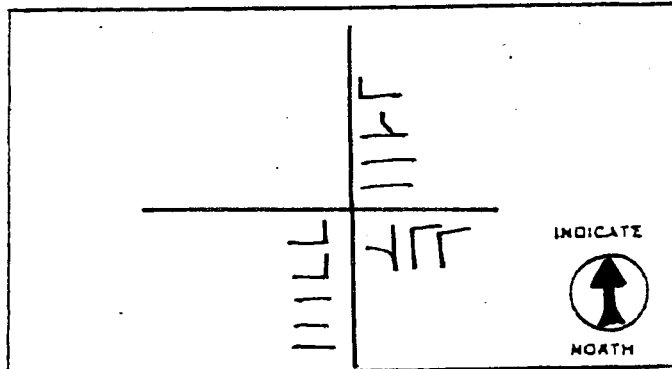
DIST. CO. RTE. P.M. 11/SD/905

BY DR DATE 4-6-10

TIME AM PM

Existing + Units 1-4

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
<div>62</div> <div>63</div> <div>63</div> <div>63</div> <div>63</div>	<div>150</div> <div>145</div> <div>145</div> <div>145</div> <div>141</div> <div>142</div> <div>141</div>	<div>165</div> <div>163</div> <div>164</div>	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
63	150	165	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
378

Is . . . ☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SE-905 NB

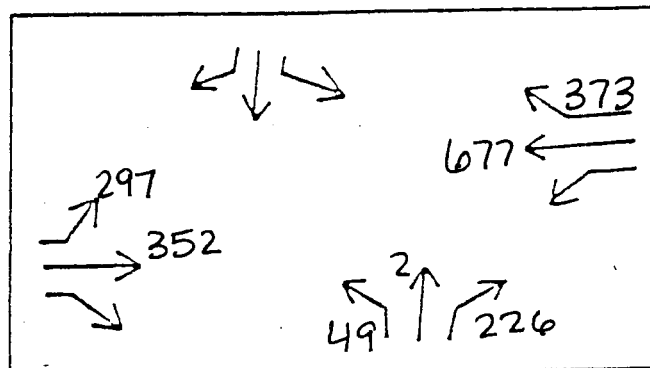
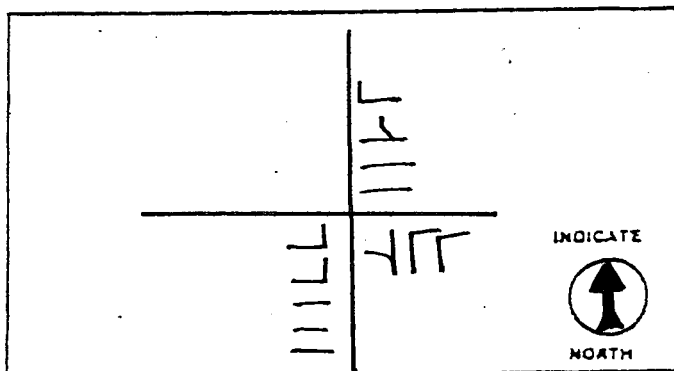
DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-4

BY DR DATE 4-6-10

TIME _____ AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
<div> <div>148</div> <div>149</div> <div>49</div> <div>30</div> <div>49</div> </div>	<div> <div>248</div> <div>267</div> <div>268</div> <div>267</div> </div> <div> <div>68</div> <div>68</div> <div>68</div> </div>	<div> <div>151</div> <div>113</div> <div>113</div> </div>	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
149	268	113	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
530

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

APPENDIX I

- Existing + Project Units 1-5 Arterial Synchro Analysis Worksheets
 - Existing + Project Units 1-5 Synchro Analysis Worksheets
 - Existing + Project Units 1-5 Intersection ILV Analysis

Existing + Project Units 1-5 Arterial Synchro Analysis Worksheets

Arterial Level of Service: EB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Heritage Road	II	45	28.4	111.6	140.0	0.27	7.0	F
Cactus Rd	II	45	44.7	64.9	109.6	0.51	16.7	E
Brittania Blvd	II	45	45.5	97.1	142.6	0.52	13.1	E
La Media	II	45	83.0	17.8	100.8	1.04	37.1	A
Piper Ranch Rd	II	45	44.3	44.2	88.5	0.50	20.5	D
	II	45	25.6	17.5	43.1	0.25	20.5	D
SR125 NB Ramp	II	45	14.8	5.1	19.9	0.14	24.5	C
SR905	II	45	15.0	190.9	205.9	0.14	2.4	F
Sanyo Ave	II	45	27.8	39.2	67.0	0.27	14.4	E
Enrico Fermi Dr	II	45	62.8	751.6	814.4	0.78	3.5	F
Total	II		391.9	1339.9	1731.8	4.41	9.2	F

Arterial Level of Service: WB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Enrico Fermi Dr	II	45	43.2	8.6	51.8	0.49	34.1	B
Sanyo Ave	II	45	62.8	3.7	66.5	0.78	42.4	A
SR905	II	45	27.8	11.3	39.1	0.27	24.6	C
SR125 NB Ramp	II	45	15.0	7.3	22.3	0.14	22.2	C
SR125 SB	II	45	14.8	12.5	27.3	0.14	17.9	D
Piper Ranch Rd	II	45	25.6	7.4	33.0	0.25	26.8	C
La Media	II	45	44.3	12.4	56.7	0.50	32.0	B
Brittania Blvd	II	45	83.0	3.6	86.6	1.04	43.2	A
Cactus Rd	II	45	45.5	2.4	47.9	0.52	38.9	A
Heritage Road	II	45	44.7	15.8	60.5	0.51	30.2	B
Total	II		406.7	85.0	491.7	4.63	33.9	B

Arterial Level of Service: EB Otay Mesa Road

























Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Heritage Road	II	45	28.4	19.9	48.3	0.27	20.3	D
Cactus Rd	II	45	44.7	14.8	59.5	0.51	30.7	B
Brittania Blvd	II	45	45.5	12.0	57.5	0.52	32.4	B
La Media	II	45	83.0	28.6	111.6	1.04	33.5	B
Piper Ranch Rd	II	45	43.8	6.0	49.8	0.50	36.0	A
	II	45	26.2	3.2	29.4	0.25	30.8	B
SR125 NB Ramp	II	45	14.7	0.2	14.9	0.14	32.7	B
SR905	II	45	15.0	18.7	33.7	0.14	14.7	E
Sanyo Ave	II	45	27.8	5.5	33.3	0.27	28.9	B
Enrico Fermi Rd	II	45	62.8	62.0	124.8	0.78	22.6	C
Total	II		391.9	170.9	562.8	4.41	28.2	B

Arterial Level of Service: WB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Enrico Fermi Rd	II	45	43.2	157.9	201.1	0.49	8.8	F
Sanyo Ave	II	45	62.8	442.1	504.9	0.78	5.6	F
SR905	II	45	27.8	297.8	325.6	0.27	3.0	F
SR125 NB Ramp	II	45	15.0	42.6	57.6	0.14	8.6	F
SR125 SB	II	45	14.7	3.1	17.8	0.14	27.3	C
Piper Ranch Rd	II	45	26.2	3.3	29.5	0.25	30.7	B
La Media	II	45	43.8	54.5	98.3	0.50	18.2	D
Brittania Blvd	II	45	83.0	30.1	113.1	1.04	33.0	B
Cactus Rd	II	45	45.5	10.7	56.2	0.52	33.1	B
Heritage Road	II	45	44.7	74.0	118.7	0.51	15.4	E
Total	II		406.7	1116.1	1522.8	4.63	10.9	F

Existing + Project Units 1-5 Synchro Analysis Worksheets

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frts			0.850			0.850		0.893				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4803	1583	3433	4803	1583	1770	1663	0	1770	1863	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4803	1583	3433	4803	1583	1770	1663	0	1770	1863	2787
Satd. Flow (RTOR)			149			80		43				58
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	105	3569	194	39	1314	71	54	22	56	233	37	52
Adj. Flow (vph)	118	4010	218	44	1476	80	61	25	63	262	42	58
Lane Group Flow (vph)	118	4010	218	44	1476	80	61	88	0	262	42	58
Turn Type	Prot	pm+ov		Prot	pm+ov		Prot			Prot	pm+ov	
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases			2			6						4
Total Split (s)	15.2	122.0	22.5	8.5	115.3	27.0	22.5	22.5	0.0	27.0	27.0	15.2
Act Effct Green (s)	11.6	127.2	155.4	4.5	118.4	145.4	24.2	11.0		23.0	9.8	21.4
Actuated g/C Ratio	0.06	0.71	0.86	0.02	0.66	0.81	0.13	0.06		0.13	0.05	0.12
v/c Ratio	0.53	1.18	0.16	0.51	0.47	0.06	0.26	0.62		1.16	0.41	0.15
Control Delay	90.2	111.6	1.0	102.9	15.8	0.9	72.4	61.3		174.0	93.5	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	90.2	111.6	1.0	102.9	15.8	0.9	72.4	61.3		174.0	93.5	10.2
LOS	F	F	A	F	B	A	E	E		F	F	B
Approach Delay		105.5			17.5			65.8			138.5	
Approach LOS		F			B			E			F	

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.18

Intersection Signal Delay: 84.6










Intersection LOS: F

Intersection Capacity Utilization 95.2%

ICU Level of Service F

Analysis Period (min) 15

























Splits and Phases: 1: Otay Mesa Road & Heritage Road

								
ø2	ø5	ø6	ø4	ø7	ø3	ø8		
122 s	15.2 s	115.3 s	8.5 s	27 s	22.5 s	22.5 s		

040501 - Otay Crossings

1: Otay Mesa Road & Heritage Road

Ex+Otay Crossings - Units 1-5- PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frt			0.850			0.850		0.920				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4803	1583	3433	4803	1583	1770	1714	0	1770	1863	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4803	1583	3433	4803	1583	1770	1714	0	1770	1863	2787
Satd. Flow (RTOR)			157			173		25				86
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	189	1925	152	46	3084	219	133	58	66	217	65	220
Adj. Flow (vph)	195	1985	157	47	3179	226	137	60	68	224	67	227
Lane Group Flow (vph)	195	1985	157	47	3179	226	137	128	0	224	67	227
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot			Prot		pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases			2			6						4
Total Split (s)	16.0	117.4	27.4	11.1	112.5	31.0	27.4	20.5	0.0	31.0	24.1	16.0
Act Effct Green (s)	12.0	115.9	144.3	6.9	108.6	133.8	27.6	14.6		25.2	12.1	24.2
Actuated g/C Ratio	0.07	0.66	0.82	0.04	0.62	0.76	0.16	0.08		0.14	0.07	0.14
v/c Ratio	0.83	0.63	0.12	0.35	1.08	0.18	0.49	0.78		0.89	0.52	0.50
Control Delay	109.0	19.9	0.5	91.5	74.0	1.1	75.2	93.2		107.1	94.0	31.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	109.0	19.9	0.5	91.5	74.0	1.1	75.2	93.2		107.1	94.0	31.4
LOS	F	B	A	F	E	A	E	F		F	F	C
Approach Delay		26.0			69.5			83.9			72.3	
Approach LOS		C			E			F			E	

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 176.4

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.08

Intersection Signal Delay: 54.8










Intersection Capacity Utilization 97.4%

Analysis Period (min) 15

Intersection LOS: D

ICU Level of Service F







Splits and Phases: 1: Otay Mesa Road & Heritage Road

								
11.1 s	117.4 s		24.1 s	27.4 s		20.5 s	31 s	





























2: Otay Mesa Road & Cactus Rd
Ex+Otay Crossings - Units 1-5- AM

Intersection Summary

Analysis Period (min) 15

 ø1	→ ø2		 ø4
15 s	134.5 s	10 s	20.5 s
	← ø6		 ø8
8.5 s	141 s	8.5 s	22 s

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						  	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Fr't		0.997			0.999				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4795	0	1770	4799	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4795	0	1770	4799	0	1770	1863	1583	1770	1863	1583
Satd. Flow (RTOR)		3			1				96			53
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	6	2447	58	100	3687	16	43	1	112	4	0	15
Adj. Flow (vph)	6	2497	59	102	3762	16	44	1	114	4	0	15
Lane Group Flow (vph)	6	2556	0	102	3778	0	44	1	114	4	0	15
Turn Type	Prot			Prot			Prot		pm+ov	Prot		pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases									8			4
Total Split (s)	14.5	104.9	0.0	28.5	118.9	0.0	20.1	32.1	28.5	14.5	26.5	14.5
Act Effct Green (s)	6.7	134.1		24.9	157.1		11.1	8.7	34.8	6.5		6.7
Actuated g/C Ratio	0.04	0.74		0.14	0.87		0.06	0.05	0.19	0.04		0.04
v/c Ratio	0.09	0.72		0.42	0.90		0.40	0.01	0.30	0.06		0.14
Control Delay	86.2	14.8		69.8	10.7		90.7	82.0	15.3	85.5		2.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Total Delay	86.2	14.8		69.8	10.7		90.7	82.0	15.3	85.5		2.6
LOS	F	B		E	B		F	F	B	F		A
Approach Delay		14.9			12.3			36.6				
Approach LOS		B			B			D				

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 139 (77%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 13.9









Intersection LOS: B

Intersection Capacity Utilization 94.0%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 2: Otay Mesa Road & Cactus Rd

			
ø2	ø1	ø3	ø4
104.9 s	28.5 s	20.1 s	26.5 s
			
ø5	ø6	ø7	ø8
14.5 s	118.9 s	14.5 s	32.1 s

040501 - Otay Crossings

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↘	↑↑↑	↘	↑
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4803	1583	1770	4803	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4803	1583	1770	4803	3433	1583
Satd. Flow (RTOR)		379				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	3307	669	53	1385	176	58
Adj. Flow (vph)	3891	787	62	1629	207	68
Lane Group Flow (vph)	3891	787	62	1629	207	68
Turn Type		pm+ov	Prot		pm+ov	
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Total Split (s)	70.6	36.3	13.1	83.7	36.3	13.1
Act Effct Green (s)	83.7	106.3	8.6	94.2	17.8	29.6
Actuated g/C Ratio	0.70	0.89	0.07	0.78	0.15	0.25
v/c Ratio	1.16	0.54	0.49	0.43	0.41	0.17
Control Delay	97.1	2.4	55.3	3.6	47.4	33.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	97.1	2.4	55.3	3.6	47.4	33.5
LOS	F	A	E	A	D	C
Approach Delay	81.2			5.5	43.9	
Approach LOS	F			A	D	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.16

Intersection Signal Delay: 60.4

Intersection LOS: E

Intersection Capacity Utilization 75.6%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: Otay Mesa Road & Britannia Blvd

→ ø2	↖ ø1
70.6 s	13.1 s
← ø6	↘ ø8
83.7 s	36.3 s

040501 - Otay Crossings

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↘	↑↑↑	↘	↑
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Fr t		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4803	1583	1770	4803	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4803	1583	1770	4803	3433	1583
Satd. Flow (RTOR)		309				2
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	2115	287	68	3168	587	54
Adj. Flow (vph)	2274	309	73	3406	631	58
Lane Group Flow (vph)	2274	309	73	3406	631	58
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Total Split (s)	95.2	60.6	24.2	119.4	60.6	24.2
Act Effct Green (s)	115.8	158.9	13.1	132.9	39.1	56.2
Actuated g/C Ratio	0.64	0.88	0.07	0.74	0.22	0.31
v/c Ratio	0.74	0.22	0.57	0.96	0.85	0.12
Control Delay	12.0	0.8	96.7	30.1	78.8	40.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	0.8	96.7	30.1	78.8	40.8
LOS	B	A	F	C	E	D
Approach Delay	10.6			31.5	75.6	
Approach LOS	B			C	E	

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 170 (94%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 28.0

Intersection LOS: C

Intersection Capacity Utilization 84.6%



























ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Otay Mesa Road & Brittania Blvd

↖ ø1	→ ø2	
24.2 s	95.2 s	
← ø6		↗ ø8
119.4 s		60.6 s

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  					 		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Fr't			0.850		0.995			0.939			0.913	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4803	1583	1770	4788	0	1770	1690	0	3433	1659	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4803	1583	1770	4788	0	1770	1690	0	3433	1659	0
Satd. Flow (RTOR)			210		7			17			48	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	71	2744	233	87	1333	47	75	24	16	81	52	71
Adj. Flow (vph)	75	2888	245	92	1403	49	79	25	17	85	55	75
Lane Group Flow (vph)	75	2888	245	92	1452	0	79	42	0	85	130	0
Turn Type	Prot		pm+ov	Prot			Prot			Prot		
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Total Split (s)	11.8	66.8	13.5	17.0	72.0	0.0	13.5	25.0	0.0	11.2	22.7	0.0
Act Effct Green (s)	7.7	71.6	84.6	11.6	77.7		9.0	10.1		12.7	11.8	
Actuated g/C Ratio	0.06	0.60	0.70	0.10	0.65		0.08	0.08		0.11	0.10	
v/c Ratio	0.66	1.01	0.21	0.54	0.47		0.59	0.27		0.23	0.63	
Control Delay	40.4	17.8	0.4	62.9	12.4		72.1	39.9		49.5	45.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	40.4	17.8	0.4	62.9	12.4		72.1	39.9		49.5	45.3	
LOS	D	B	A	E	B		E	D		D	D	
Approach Delay		17.0			15.4			60.9			47.0	
Approach LOS		B			B			E			D	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 87 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 18.8









Intersection LOS: B

Intersection Capacity Utilization 82.4%



























ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 4: Otay Mesa Road & La Media

 ø1	 ø2	 ø3	 ø4
17 s	66.8 s	13.5 s	22.7 s
 ø6	 ø5	 ø8	 ø7
72 s	11.8 s	25 s	11.2 s

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  					 		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850		0.997			0.922			0.903	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4803	1583	1770	4793	0	1770	1670	0	3433	1648	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4803	1583	1770	4793	0	1770	1670	0	3433	1648	0
Satd. Flow (RTOR)			249		3			25			54	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	70	1900	239	55	2764	52	158	22	24	71	63	116
Adj. Flow (vph)	73	1979	249	57	2879	54	165	23	25	74	66	121
Lane Group Flow (vph)	73	1979	249	57	2933	0	165	48	0	74	187	0
Turn Type	Prot	pm+ov		Prot			Prot			Prot		
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Total Split (s)	15.0	71.0	25.9	22.0	78.0	0.0	25.9	30.1	0.0	16.9	21.1	0.0
Act Effct Green (s)	9.9	77.5	99.4	15.4	83.1		17.9	12.1		23.1	15.2	
Actuated g/C Ratio	0.07	0.55	0.71	0.11	0.59		0.13	0.09		0.16	0.11	
v/c Ratio	0.58	0.74	0.21	0.29	1.03		0.73	0.29		0.13	0.82	
Control Delay	81.2	28.6	1.4	59.7	54.5		76.8	39.8		47.7	70.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	81.2	28.6	1.4	59.7	54.5		76.8	39.8		47.7	70.1	
LOS	F	C	A	E	D		E	D		D	E	
Approach Delay		27.3			54.6			68.5			63.8	
Approach LOS		C			D			E			E	

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 44.7









Intersection Capacity Utilization 87.4%

Analysis Period (min) 15

















Intersection LOS: D

ICU Level of Service E

Splits and Phases: 4: Otay Mesa Road & La Media

 ø2	 ø1	 ø4	 ø3
71 s	22 s	21.1 s	25.9 s
 ø6	 ø5	 ø8	 ø7
78 s	15 s	30.1 s	16.9 s

040501 - Otay Crossings

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	  		  	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.91	0.91	0.97	0.91
Frt			0.997			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	5070	0	3433	1441
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	3539	5070	0	3433	1441
Satd. Flow (RTOR)			4			20
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	106	2778	1450	33	31	18
Adj. Flow (vph)	119	3121	1629	37	35	20
Lane Group Flow (vph)	119	3121	1666	0	35	20
Turn Type	Prot				custom	
Protected Phases	5	2	6			
Permitted Phases					4	4
Total Split (s)	22.0	64.0	42.0	0.0	26.0	26.0
Act Effct Green (s)	15.8	75.1	57.5		6.9	6.9
Actuated g/C Ratio	0.18	0.83	0.64		0.08	0.08
v/c Ratio	0.38	1.06	0.51		0.13	0.16
Control Delay	35.5	44.2	7.4		39.6	19.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	35.5	44.2	7.4		39.6	19.4
LOS	D	D	A		D	B
Approach Delay		43.9	7.4		32.3	
Approach LOS		D	A		C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 9 (10%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.06

Intersection Signal Delay: 31.5





Intersection LOS: C

Intersection Capacity Utilization 86.8%

















ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 5: Otay Mesa Road & Piper Ranch Rd

 ø2	 ø4
64 s	26 s
 ø6	 ø5
42 s	22 s

040501 - Otay Crossings

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	  		  	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.91	0.91	0.97	0.91
Fr _t			0.998		0.930	0.850
Flt Protected	0.950				0.974	
Satd. Flow (prot)	1770	3539	5075	0	3273	1441
Flt Permitted	0.950				0.974	
Satd. Flow (perm)	1770	3539	5075	0	3273	1441
Satd. Flow (RTOR)			3		51	51
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	17	2044	2773	30	54	94
Adj. Flow (vph)	18	2222	3014	33	59	102
Lane Group Flow (vph)	18	2222	3047	0	110	51
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Total Split (s)	13.5	64.5	51.0	0.0	25.5	25.5
Act Effct Green (s)	6.9	74.4	69.6		7.6	7.6
Actuated g/C Ratio	0.08	0.83	0.77		0.08	0.08
v/c Ratio	0.13	0.76	0.78		0.34	0.30
Control Delay	40.4	6.0	3.3		25.1	16.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	40.4	6.0	3.3		25.1	16.4
LOS	D	A	A		C	B
Approach Delay		6.3	3.3		22.3	
Approach LOS		A	A		C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 5.1





Intersection LOS: A

Intersection Capacity Utilization 66.5%


















ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 5: Otay Mesa Road & Piper Ranch Rd

 ø2		 ø4	
64.5 s		25.5 s	
 ø5	 ø6		
13.5 s	51 s		

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	0.86	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850									0.850
Flt Protected										0.950		
Satd. Flow (prot)	0	4806	1362	0	5085	0	0	0	0	3433	0	1583
Flt Permitted										0.950		
Satd. Flow (perm)	0	4806	1362	0	5085	0	0	0	0	3433	0	1583
Satd. Flow (RTOR)			606									20
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	1743	931	0	1279	0	0	0	0	843	0	145
Adj. Flow (vph)	0	2027	1083	0	1487	0	0	0	0	980	0	169
Lane Group Flow (vph)	0	2027	1083	0	1487	0	0	0	0	980	0	169
Turn Type			Free							Prot		custom
Protected Phases		2			6					4		
Permitted Phases			Free									4
Total Split (s)	0.0	49.8	0.0	0.0	49.8	0.0	0.0	0.0	0.0	40.2	0.0	40.2
Act Effct Green (s)		50.4	90.0		50.4					31.6		31.6
Actuated g/c Ratio		0.56	1.00		0.56					0.35		0.35
v/c Ratio		0.75	0.80		0.52					0.81		0.30
Control Delay		17.5	2.6		12.5					32.2		18.9
Queue Delay		0.0	0.0		0.0					0.0		0.0
Total Delay		17.5	2.6		12.5					32.2		18.9
LOS		B	A		B					C		B
Approach Delay		12.3			12.5							
Approach LOS		B			B							

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 2 (2%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 15.9




Intersection LOS: B

Intersection Capacity Utilization 74.0%

ICU Level of Service D























Analysis Period (min) 15

Splits and Phases: 6: Otay Mesa Road & SR125 SB

	
ø2	ø4
49.8 s	40.2 s
	
ø6	
49.8 s	

040501 - Otay Crossings

6: Otay Mesa Road & SR125 SB
Ex+Otay Crossings - Units 1-5- PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  					 		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	0.86	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt		0.932	0.850									0.850
Flt Protected										0.950		
Satd. Flow (prot)	0	4479	1362	0	5085	0	0	0	0	3433	0	1583
Flt Permitted										0.950		
Satd. Flow (perm)	0	4479	1362	0	5085	0	0	0	0	3433	0	1583
Satd. Flow (RTOR)		505	663									2
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	738	1219	0	2819	0	0	0	0	296	0	40
Adj. Flow (vph)	0	802	1325	0	3064	0	0	0	0	322	0	43
Lane Group Flow (vph)	0	1464	663	0	3064	0	0	0	0	322	0	43
Turn Type			Free							Prot		custom
Protected Phases		2			6					4		
Permitted Phases			Free									4
Total Split (s)	0.0	64.5	0.0	0.0	64.5	0.0	0.0	0.0	0.0	25.5	0.0	25.5
Act Effct Green (s)		68.2	90.0		68.2					13.8		13.8
Actuated g/C Ratio		0.76	1.00		0.76					0.15		0.15
v/c Ratio		0.42	0.49		0.80					0.61		0.18
Control Delay		3.2	0.8		3.1					40.3		32.4
Queue Delay		0.0	0.0		0.6					0.0		0.0
Total Delay		3.2	0.8		3.7					40.3		32.4
LOS		A	A		A					D		C
Approach Delay		2.4			3.7							
Approach LOS		A			A							

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 56 (62%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 5.5




Intersection LOS: A

Intersection Capacity Utilization 85.7%











ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 6: Otay Mesa Road & SR125 SB

 ø2	 ø4
64.5 s	25.5 s
 ø6	
64.5 s	

040501 - Otay Crossings

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				239		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	29	2557	1233	208	0	0
Adj. Flow (vph)	33	2939	1417	239	0	0
Lane Group Flow (vph)	33	2939	1417	239	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Total Split (s)	18.0	90.0	72.0	72.0	0.0	0.0
Act Effct Green (s)	14.4	90.0	76.2	76.2		
Actuated g/C Ratio	0.16	1.00	0.85	0.85		
v/c Ratio	0.06	0.83	0.47	0.10		
Control Delay	21.8	5.1	7.3	1.9		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	21.8	5.1	7.3	1.9		
LOS	C	A	A	A		
Approach Delay		5.3	6.5			
Approach LOS		A	A			

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 62 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 5.7




Intersection LOS: A

Intersection Capacity Utilization 74.0%











ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

	ø2					
90 s						
	ø6					ø5
72 s					18 s	

040501 - Otay Crossings

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				633		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	113	921	2740	803	0	0
Adj. Flow (vph)	124	1012	3011	882	0	0
Lane Group Flow (vph)	124	1012	3011	882	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Total Split (s)	17.0	90.0	73.0	73.0	0.0	0.0
Act Effct Green (s)	9.0	90.0	73.0	73.0		
Actuated g/C Ratio	0.10	1.00	0.81	0.81		
v/c Ratio	0.36	0.29	1.05	0.37		
Control Delay	44.9	0.2	42.6	1.1		
Queue Delay	0.0	0.0	14.7	0.0		
Total Delay	44.9	0.2	57.3	1.1		
LOS	D	A	E	A		
Approach Delay		5.1	44.6			
Approach LOS		A	D			

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 33 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.05

Intersection Signal Delay: 35.6




Intersection LOS: D

Intersection Capacity Utilization 85.7%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

	ø2		
90 s			
	ø5		ø6
17 s		73 s	

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	3433	1583
Satd. Flow (RTOR)						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	2574	0	0	775	689	15
Adj. Flow (vph)	2993	0	0	901	801	17
Lane Group Flow (vph)	2993	0	0	901	801	17
Turn Type					Perm	
Protected Phases	2			6	8	
Permitted Phases						8
Total Split (s)	44.5	0.0	0.0	44.5	45.5	45.5
Act Effct Green (s)	55.3			55.3	26.7	26.7
Actuated g/C Ratio	0.61			0.61	0.30	0.30
v/c Ratio	1.38			0.41	0.79	0.04
Control Delay	190.9			11.3	29.8	13.7
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	190.9			11.3	29.8	13.7
LOS	F			B	C	B
Approach Delay	190.9			11.3	29.5	
Approach LOS	F			B	C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 58 (64%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.38

Intersection Signal Delay: 128.5

Intersection LOS: F

Intersection Capacity Utilization 97.5%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 8: Otay Mesa Road & SR905

→ ø2		
44.5 s		
← ø6		↖ ø8
44.5 s		45.5 s

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Fr _t						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	3433	1583
Satd. Flow (RTOR)						9
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	921	0	0	2414	1168	8
Adj. Flow (vph)	1012	0	0	2653	1284	9
Lane Group Flow (vph)	1012	0	0	2653	1284	9
Turn Type						Perm
Protected Phases	2			6	8	
Permitted Phases						8
Total Split (s)	39.0	0.0	0.0	39.0	41.5	41.5
Act Effct Green (s)	37.6			37.6	34.9	34.9
Actuated g/C Ratio	0.47			0.47	0.43	0.43
v/c Ratio	0.61			1.61	0.86	0.01
Control Delay	18.7			297.8	27.4	6.8
Queue Delay	0.0			4.8	2.7	0.0
Total Delay	18.7			302.6	30.0	6.8
LOS	B			F	C	A
Approach Delay	18.7			302.6	29.9	
Approach LOS	B			F	C	

Intersection Summary

Cycle Length: 80.5

Actuated Cycle Length: 80.5

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.61

Intersection Signal Delay: 173.5

Intersection LOS: F

Intersection Capacity Utilization 106.7%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 8: Otay Mesa Road & SR905

→ ø2		
39 s		
← ø6		↖ ø8
39 s		41.5 s

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑	↑↑	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Fr _t	0.988				0.965	
Flt Protected			0.950		0.963	
Satd. Flow (prot)	3497	0	1770	1863	3358	0
Flt Permitted			0.950		0.963	
Satd. Flow (perm)	3497	0	1770	1863	3358	0
Satd. Flow (RTOR)	13				12	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	2280	200	24	762	32	10
Adj. Flow (vph)	2850	250	30	952	40	12
Lane Group Flow (vph)	3100	0	30	952	52	0
Turn Type			Prot			
Protected Phases	2		1	6	3	
Permitted Phases						
Total Split (s)	45.2	0.0	21.5	66.7	23.3	0.0
Act Effct Green (s)	75.5		7.4	80.7	7.0	
Actuated g/C Ratio	0.84		0.08	0.90	0.08	
v/c Ratio	1.06		0.21	0.57	0.19	
Control Delay	39.2		41.4	3.7	33.1	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	39.2		41.4	3.7	33.1	
LOS	D		D	A	C	
Approach Delay	39.2			4.8	33.1	
Approach LOS	D			A	C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.06

Intersection Signal Delay: 31.0

Intersection LOS: C

Intersection Capacity Utilization 79.4%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

↙ ø1	→ ø2	↖ ø3
21.5 s	45.2 s	23.3 s
← ø6		
66.7 s		

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑	↖↗	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.991				0.996	
Flt Protected			0.950		0.954	
Satd. Flow (prot)	3507	0	1770	1863	3434	0
Flt Permitted			0.950		0.954	
Satd. Flow (perm)	3507	0	1770	1863	3434	0
Satd. Flow (RTOR)	10				3	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	873	54	12	2288	185	5
Adj. Flow (vph)	1078	67	15	2825	228	6
Lane Group Flow (vph)	1145	0	15	2825	234	0
Turn Type			Prot			
Protected Phases	2		1	6	3	
Permitted Phases						
Total Split (s)	48.4	0.0	17.5	65.9	24.1	0.0
Act Effct Green (s)	68.0		6.7	70.4	11.6	
Actuated g/C Ratio	0.76		0.07	0.78	0.13	
v/c Ratio	0.43		0.11	1.94	0.53	
Control Delay	5.5		40.4	442.1	40.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	5.5		40.4	442.1	40.2	
LOS	A		D	F	D	
Approach Delay	5.5			440.0	40.2	
Approach LOS	A			F	D	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.94

Intersection Signal Delay: 299.9

Intersection LOS: F

Intersection Capacity Utilization 132.5%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

↙ ø1	→ ø2	↖ ø3
17.5 s	48.4 s	24.1 s
← ø6		
65.9 s		

040501 - Otay Crossings

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩		↩	↩	↩	↩
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.955					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1779	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1779	0	1770	1863	1770	1583
Satd. Flow (RTOR)	31					56
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1557	778	42	385	318	48
Adj. Flow (vph)	1832	915	49	453	374	56
Lane Group Flow (vph)	2747	0	49	453	374	56
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	65.5	0.0	21.0	86.5	33.5	33.5
Act Effct Green (s)	62.1		8.9	72.7	26.3	26.3
Actuated g/C Ratio	0.58		0.08	0.68	0.25	0.25
v/c Ratio	2.63		0.34	0.36	0.86	0.13
Control Delay	751.6		54.8	8.6	59.4	9.6
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	751.6		54.8	8.6	59.4	9.6
LOS	F		D	A	E	A
Approach Delay	751.6			13.1	52.9	
Approach LOS	F			B	D	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 107

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 2.63

Intersection Signal Delay: 569.2

Intersection LOS: F

Intersection Capacity Utilization 153.6%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

↙ ø1	→ ø2	
21 s	65.5 s	
← ø6		↗ ø8
86.5 s		33.5 s

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖	↗	↖	↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.948					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1766	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1766	0	1770	1863	1770	1583
Satd. Flow (RTOR)	36					13
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	528	335	144	1500	863	26
Adj. Flow (vph)	574	364	157	1630	938	28
Lane Group Flow (vph)	938	0	157	1630	938	28
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	60.3	0.0	25.2	85.5	34.5	34.5
Act Effct Green (s)	61.7		15.8	81.5	30.5	30.5
Actuated g/C Ratio	0.51		0.13	0.68	0.25	0.25
v/c Ratio	1.01		0.67	1.29	2.08	0.07
Control Delay	62.0		63.4	157.9	520.8	22.6
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	62.0		63.4	157.9	520.8	22.6
LOS	E		E	F	F	C
Approach Delay	62.0			149.6	506.4	
Approach LOS	E			F	F	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 2.08

Intersection Signal Delay: 220.7

Intersection Capacity Utilization 133.4%

Analysis Period (min) 15

















Intersection LOS: F

ICU Level of Service H

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Rd

















↙ ø1	→ ø2	
25.2 s	60.3 s	
← ø6		↖ ø8
85.5 s		34.5 s

040501 - Otay Crossings

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	652	423	676	0	144	0	196	1	0	0	4	168
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	709	460	735	0	157	0	213	1	0	0	4	183
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	1903	157	214	187								
Volume Left (vph)	709	0	213	0								
Volume Right (vph)	735	0	0	183								
Hadj (s)	-0.12	0.03	0.23	-0.55								
Departure Headway (s)	5.5	6.4	6.9	6.2								
Degree Utilization, x	2.89	0.28	0.41	0.32								
Capacity (veh/h)	673	525	508	550								
Control Delay (s)	865.3	11.9	14.5	12.1								
Approach Delay (s)	865.3	11.9	14.5	12.1								
Approach LOS	F	B	B	B								
Intersection Summary												
Delay			672.1									
HCM Level of Service			F									
Intersection Capacity Utilization			142.1%		ICU Level of Service					H		
Analysis Period (min)			15									


















040501 - Otay Crossings

14: Otay Mesa Road & Alta Rd
Ex+Otay Crossings - Units 1-5- PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	101	204	272	0	392	0	651	0	0	0	1	726
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	116	234	313	0	451	0	748	0	0	0	1	834
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	663	451	748	836								
Volume Left (vph)	116	0	748	0								
Volume Right (vph)	313	0	0	834								
Hadj (s)	-0.21	0.03	0.23	-0.57								
Departure Headway (s)	9.4	9.6	9.8	9.0								
Degree Utilization, x	1.72	1.20	2.04	2.09								
Capacity (veh/h)	389	380	373	407								
Control Delay (s)	358.5	143.0	497.7	518.9								
Approach Delay (s)	358.5	143.0	497.7	518.9								
Approach LOS	F	F	F	F								
Intersection Summary												
Delay			410.8									
HCM Level of Service			F									
Intersection Capacity Utilization			148.0%		ICU Level of Service					H		
Analysis Period (min)			15									


















040501 - Otay Crossings

17: Airway Rd & La Media
Ex+Otay Crossings - Units 1-5- AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	9	84	60	40	80	49	57	101	3	209	255	46
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	10	93	67	44	89	54	63	112	3	232	283	51
Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2							
Volume Total (vph)	170	188	179	232	334							
Volume Left (vph)	10	44	63	232	0							
Volume Right (vph)	67	54	3	0	51							
Hadj (s)	-0.19	-0.09	0.16	0.53	0.01							
Departure Headway (s)	6.0	6.0	6.1	6.4	5.9							
Degree Utilization, x	0.28	0.32	0.30	0.42	0.55							
Capacity (veh/h)	545	543	538	541	593							
Control Delay (s)	11.3	11.8	11.8	12.7	14.7							
Approach Delay (s)	11.3	11.8	11.8	13.9								
Approach LOS	B	B	B	B								
Intersection Summary												
Delay			12.8									
HCM Level of Service			B									
Intersection Capacity Utilization			56.2%			ICU Level of Service				B		
Analysis Period (min)			15									




















040501 - Otay Crossings

17: Airway Rd & La Media
Ex+Otay Crossings - Units 1-5- PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	38	145	83	123	116	119	72	180	8	143	171	23
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Hourly flow rate (vph)	38	146	84	124	117	120	73	182	8	144	173	23
Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2							
Volume Total (vph)	269	362	263	144	196							
Volume Left (vph)	38	124	73	144	0							
Volume Right (vph)	84	120	8	0	23							
Hadj (s)	-0.12	-0.10	0.14	0.53	0.04							
Departure Headway (s)	6.7	6.5	7.1	7.8	7.3							
Degree Utilization, x	0.50	0.65	0.52	0.31	0.40							
Capacity (veh/h)	482	514	459	426	447							
Control Delay (s)	16.2	20.8	17.5	13.1	13.8							
Approach Delay (s)	16.2	20.8	17.5	13.5								
Approach LOS	C	C	C	B								
Intersection Summary												
Delay			17.1									
HCM Level of Service			C									
Intersection Capacity Utilization			72.6%			ICU Level of Service				C		
Analysis Period (min)			15									




















040501 - Otay Crossings

19: Airway Rd & Sanyo Ave
Ex+Otay Crossings - Units 1-5- AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	14	125	91	4	135	23	31	15	3	103	121	12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	15	134	98	4	145	25	33	16	3	111	130	13
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2					
Volume Total (vph)	247	149	25	33	19	241	13					
Volume Left (vph)	15	4	0	33	0	111	0					
Volume Right (vph)	98	0	25	0	3	0	13					
Hadj (s)	-0.19	0.05	-0.67	0.53	-0.08	0.26	-0.67					
Departure Headway (s)	5.5	5.8	5.1	6.6	6.0	6.0	5.1					
Degree Utilization, x	0.38	0.24	0.03	0.06	0.03	0.40	0.02					
Capacity (veh/h)	627	586	662	501	547	569	665					
Control Delay (s)	11.7	9.4	7.0	8.8	8.0	11.8	7.0					
Approach Delay (s)	11.7	9.1		8.5		11.6						
Approach LOS	B	A		A		B						
Intersection Summary												
Delay			10.8									
HCM Level of Service			B									
Intersection Capacity Utilization			49.0%			ICU Level of Service				A		
Analysis Period (min)			15									

040501 - Otay Crossings











19: Airway Rd & Sanyo Ave
Ex+Otay Crossings - Units 1-5- PM











												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	4	79	51	4	304	96	79	126	2	40	26	35
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	5	91	59	5	349	110	91	145	2	46	30	40
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2					
Volume Total (vph)	154	354	110	91	147	76	40					
Volume Left (vph)	5	5	0	91	0	46	0					
Volume Right (vph)	59	0	110	0	2	0	40					
Hadj (s)	-0.19	0.04	-0.67	0.53	0.02	0.34	-0.67					
Departure Headway (s)	6.0	5.8	5.1	6.9	6.4	7.0	5.9					
Degree Utilization, x	0.26	0.57	0.16	0.17	0.26	0.15	0.07					
Capacity (veh/h)	560	597	670	487	525	474	548					
Control Delay (s)	11.1	15.2	7.9	10.2	10.5	10.0	8.2					
Approach Delay (s)	11.1	13.5		10.4		9.3						
Approach LOS	B	B		B		A						
Intersection Summary												
Delay			11.9									
HCM Level of Service			B									
Intersection Capacity Utilization			38.0%		ICU Level of Service					A		
Analysis Period (min)			15									

040501 - Otay Crossings

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩			↩	↩	↩
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	195	46	5	135	33	9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	217	51	6	150	37	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			268		403	242
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			268		403	242
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		94	99
cM capacity (veh/h)			1296		601	797
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	268	156	37	10		
Volume Left	0	6	37	0		
Volume Right	51	0	0	10		
cSH	1700	1296	601	797		
Volume to Capacity	0.16	0.00	0.06	0.01		
Queue Length 95th (ft)	0	0	5	1		
Control Delay (s)	0.0	0.3	11.4	9.6		
Lane LOS		A	B	A		
Approach Delay (s)	0.0	0.3	11.0			
Approach LOS			B			
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			23.1%		ICU Level of Service	A
Analysis Period (min)			15			

























040501 - Otay Crossings

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	103	29	26	333	82	10
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	118	33	30	383	94	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			152		578	135
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			152		578	135
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		80	99
cM capacity (veh/h)			1429		468	914
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	152	413	94	11		
Volume Left	0	30	94	0		
Volume Right	33	0	0	11		
cSH	1700	1429	468	914		
Volume to Capacity	0.09	0.02	0.20	0.01		
Queue Length 95th (ft)	0	2	19	1		
Control Delay (s)	0.0	0.7	14.6	9.0		
Lane LOS		A	B	A		
Approach Delay (s)	0.0	0.7	14.0			
Approach LOS			B			
Intersection Summary						
Average Delay			2.7			
Intersection Capacity Utilization			40.7%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	140	37	4	129	23	11
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	179	47	5	165	29	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			227		379	203
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			227		379	203
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		95	98
cM capacity (veh/h)			1341		621	837
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	227	171	29	14		
Volume Left	0	5	29	0		
Volume Right	47	0	0	14		
cSH	1700	1341	621	837		
Volume to Capacity	0.13	0.00	0.05	0.02		
Queue Length 95th (ft)	0	0	4	1		
Control Delay (s)	0.0	0.3	11.1	9.4		
Lane LOS		A	B	A		
Approach Delay (s)	0.0	0.3	10.5			
Approach LOS			B			
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			20.0%		ICU Level of Service	A
Analysis Period (min)			15			

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↘	↗
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	60	36	1	282	55	1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	71	43	1	336	65	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)				1314		
pX, platoon unblocked						
vC, conflicting volume			114		431	93
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			114		431	93
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		89	100
cM capacity (veh/h)			1475		581	964
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	114	337	65	1		
Volume Left	0	1	65	0		
Volume Right	43	0	0	1		
cSH	1700	1475	581	964		
Volume to Capacity	0.07	0.00	0.11	0.00		
Queue Length 95th (ft)	0	0	9	0		
Control Delay (s)	0.0	0.0	12.0	8.7		
Lane LOS		A	B	A		
Approach Delay (s)	0.0	0.0	11.9			
Approach LOS			B			
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization			25.6%		ICU Level of Service	A
Analysis Period (min)			15			

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.880			0.936	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1770	1504	1770	1863	1583	1770	3115	0	1770	3313	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1770	1504	1770	1863	1583	1770	3115	0	1770	3313	0
Satd. Flow (RTOR)			34			287		239			48	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	3	120	27	34	35	264	59	85	392	768	52	38
Adj. Flow (vph)	4	130	34	37	38	287	74	106	426	835	65	48
Lane Group Flow (vph)	4	130	34	37	38	287	74	532	0	835	113	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Total Split (s)	9.5	21.0	21.0	9.0	20.5	20.5	12.3	21.0	0.0	49.0	57.7	0.0
Act Effct Green (s)	5.6	12.0	12.0	5.0	15.2	15.2	42.6	13.5		45.8	19.9	
Actuated g/C Ratio	0.06	0.14	0.14	0.05	0.17	0.17	0.47	0.15		0.52	0.23	
v/c Ratio	0.04	0.54	0.15	0.38	0.12	0.56	0.09	0.96dr		0.91	0.14	
Control Delay	47.0	45.8	14.0	56.4	32.9	9.1	10.5	29.1		38.7	26.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	47.0	45.8	14.0	56.4	32.9	9.1	10.5	29.1		38.7	26.2	
LOS	D	D	B	E	C	A	B	C		D	C	
Approach Delay		39.4			16.5			26.8			37.2	
Approach LOS		D			B			C			D	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 88.4

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 30.8

Intersection Capacity Utilization 81.1%









Analysis Period (min) 15

Intersection LOS: C

























ICU Level of Service D

dr = Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 23: Airway Rd & Enrico Fermi Dr

 ø1	 ø2	 ø3	 ø4
49 s	21 s	9 s	21 s
 ø6	 ø5	 ø7	 ø8
57.7 s	12.3 s	9.5 s	20.5 s

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.925			0.893	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1770	1504	1770	1863	1583	1770	3274	0	1770	3161	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1770	1504	1770	1863	1583	1770	3274	0	1770	3161	0
Satd. Flow (RTOR)			16			871		117			138	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	2	47	13	104	104	827	70	97	96	331	46	113
Adj. Flow (vph)	2	57	16	127	127	1009	85	118	117	404	56	138
Lane Group Flow (vph)	2	57	16	127	127	1009	85	235	0	404	194	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Total Split (s)	15.5	27.5	27.5	15.5	27.5	27.5	20.9	31.5	0.0	15.5	26.1	0.0
Act Effct Green (s)	6.2	21.3	21.3	17.7	36.7	36.7	11.7	9.0		30.1	29.5	
Actuated g/C Ratio	0.07	0.24	0.24	0.20	0.41	0.41	0.13	0.10		0.33	0.33	
v/c Ratio	0.02	0.14	0.04	0.36	0.17	0.87	0.37	0.54		0.68	0.17	
Control Delay	39.0	22.6	8.5	35.7	15.0	12.2	39.7	23.6		41.0	12.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	39.0	22.6	8.5	35.7	15.0	12.2	39.7	23.6		41.0	12.3	
LOS	D	C	A	D	B	B	D	C		D	B	
Approach Delay		20.0			14.9			27.9			31.7	
Approach LOS		C			B			C			C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 21.3









Intersection LOS: C

Intersection Capacity Utilization 70.3%

ICU Level of Service C

Analysis Period (min) 15

















Splits and Phases: 23: Airway Rd & Enrico Fermi Rd

			
ø1	ø2	ø3	ø4
15.5 s	31.5 s	15.5 s	27.5 s
			
ø6	ø5	ø7	ø8
26.1 s	20.9 s	15.5 s	27.5 s

















040501 - Otay Crossings

27: Siempre Viva Rd & La Media

Ex+Otay Crossings - Units 1-5- AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	5	2	0	10	2	93	0	9	2	236	44	4
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	6	2	0	11	2	107	0	10	2	271	51	5
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	8	121	13	326								
Volume Left (vph)	6	11	0	271								
Volume Right (vph)	0	107	2	5								
Hadj (s)	0.18	-0.48	0.01	0.21								
Departure Headway (s)	5.0	4.2	4.6	4.4								
Degree Utilization, x	0.01	0.14	0.02	0.40								
Capacity (veh/h)	656	784	746	789								
Control Delay (s)	8.1	7.9	7.6	10.3								
Approach Delay (s)	8.1	7.9	7.6	10.3								
Approach LOS	A	A	A	B								
Intersection Summary												
Delay			9.6									
HCM Level of Service			A									
Intersection Capacity Utilization		35.2%			ICU Level of Service				A			
Analysis Period (min)		15										

040501 - Otay Crossings

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	5	10	0	9	3	121	0	61	1	178	187	10
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	6	12	0	11	4	149	0	75	1	220	231	12
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	19	164	77	463								
Volume Left (vph)	6	11	0	220								
Volume Right (vph)	0	149	1	12								
Hadj (s)	0.10	-0.50	0.12	0.16								
Departure Headway (s)	5.6	4.7	5.0	4.6								
Degree Utilization, x	0.03	0.22	0.11	0.60								
Capacity (veh/h)	569	686	666	755								
Control Delay (s)	8.7	9.0	8.7	14.2								
Approach Delay (s)	8.7	9.0	8.7	14.2								
Approach LOS	A	A	A	B								
Intersection Summary												
Delay			12.3									
HCM Level of Service			B									
Intersection Capacity Utilization			42.0%		ICU Level of Service					A		
Analysis Period (min)			15									

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↑↑	↑↑↑		↑↑
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	0.91	0.97	0.91	1.00	0.88
Fr _t	0.986					0.850
Flt Protected			0.950			
Satd. Flow (prot)	5014	0	3433	5085	0	2787
Flt Permitted			0.950			
Satd. Flow (perm)	5014	0	3433	5085	0	2787
Satd. Flow (RTOR)	19					940
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	468	46	235	702	0	280
Adj. Flow (vph)	514	51	258	771	0	308
Lane Group Flow (vph)	565	0	258	771	0	308
Turn Type			Prot			custom
Protected Phases	2		1	6		
Permitted Phases						8
Total Split (s)	33.0	0.0	25.0	58.0	0.0	32.0
Act Effct Green (s)	60.0		12.0	76.0		6.0
Actuated g/C Ratio	0.67		0.13	0.84		0.07
v/c Ratio	0.17		0.56	0.18		0.29
Control Delay	5.8		40.1	1.1		0.7
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	5.8		40.1	1.1		0.7
LOS	A		D	A		A
Approach Delay	5.8			10.9		
Approach LOS	A			B		

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 66 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 7.7

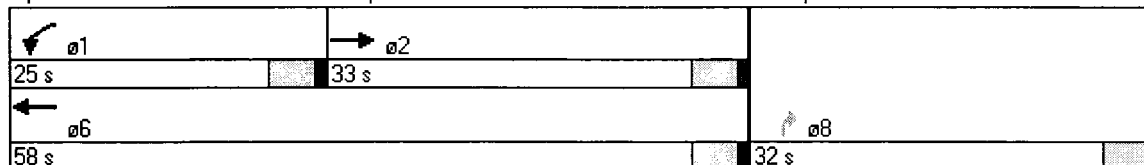
Intersection LOS: A

Intersection Capacity Utilization 26.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 28: Siempre Viva Rd & SR905 SB Off to Siempre Viva EB



28: Siempre Viva Road & SR905 SB Off Ramp to Siempre Viva EB

040501 - Otay Crossings

Ex+Otay Crossings - Units 1-5- PM

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↘↙	↑↑↑		↗↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	0.91	0.97	0.91	1.00	0.88
Fr _t	0.937					0.850
Flt Protected			0.950			
Satd. Flow (prot)	4765	0	3433	5085	0	2787
Flt Permitted			0.950			
Satd. Flow (perm)	4765	0	3433	5085	0	2787
Satd. Flow (RTOR)	214					1005
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	444	322	442	669	0	175
Adj. Flow (vph)	522	379	520	787	0	206
Lane Group Flow (vph)	901	0	520	787	0	206
Turn Type			Prot			custom
Protected Phases	2		1	6		
Permitted Phases						8
Total Split (s)	32.8	0.0	28.7	61.5	0.0	28.5
Act Effct Green (s)	47.3		24.7	76.0		6.0
Actuated g/C Ratio	0.53		0.27	0.84		0.07
v/c Ratio	0.35		0.55	0.18		0.18
Control Delay	9.6		26.1	1.3		0.4
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	9.6		26.1	1.3		0.4
LOS	A		C	A		A
Approach Delay	9.6			11.2		
Approach LOS	A			B		

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 29 (32%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.55

Intersection Signal Delay: 9.7

Intersection LOS: A







Intersection Capacity Utilization 35.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 28: Siempre Viva Road & SR905 SB Off Ramp to Siempre Viva EB







→ ø2	↘ ø1	
32.8 s	28.7 s	
← ø6		↗ ø8
61.5 s		28.5 s

























							
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		↑↑↑	↑↑↑			↑	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Volume (veh/h)	0	748	573	0	0	364	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	
Hourly flow rate (vph)	0	860	659	0	0	418	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type					None		
Median storage veh							
Upstream signal (ft)		281	733				
pX, platoon unblocked					0.98		
vC, conflicting volume	659				945	220	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	659				910	220	
tC, single (s)	4.1				6.8	6.9	
tC, 2 stage (s)							
tF (s)	2.2				3.5	3.3	
p0 queue free %	100				100	47	
cM capacity (veh/h)	925				269	784	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	287	287	287	220	220	220	418
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	418
cSH	1700	1700	1700	1700	1700	1700	784
Volume to Capacity	0.17	0.17	0.17	0.13	0.13	0.13	0.53
Queue Length 95th (ft)	0	0	0	0	0	0	80
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	14.7
Lane LOS							B
Approach Delay (s)	0.0			0.0			14.7
Approach LOS							B
Intersection Summary							
Average Delay			3.2				
Intersection Capacity Utilization			40.3%		ICU Level of Service		A
Analysis Period (min)			15				

29: Siempre Viva Road & SR905 SB Off Ramp to Siempre Viva WB

040501 - Otay Crossings

Ex+Otay Crossings - Units 1-5- PM

							
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		↑↑↑	↑↑↑			↗	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Volume (veh/h)	0	619	735	0	0	376	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	
Hourly flow rate (vph)	0	666	790	0	0	404	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type					None		
Median storage veh							
Upstream signal (ft)		225	412				
pX, platoon unblocked	0.96				0.96	0.96	
vC, conflicting volume	790				1012	263	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	692				923	141	
tC, single (s)	4.1				6.8	6.9	
tC, 2 stage (s)							
tF (s)	2.2				3.5	3.3	
p0 queue free %	100				100	52	
cM capacity (veh/h)	861				257	843	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	222	222	222	263	263	263	404
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	404
cSH	1700	1700	1700	1700	1700	1700	843
Volume to Capacity	0.13	0.13	0.13	0.15	0.15	0.15	0.48
Queue Length 95th (ft)	0	0	0	0	0	0	66
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	13.1
Lane LOS							B
Approach Delay (s)	0.0			0.0			13.1
Approach LOS							B
Intersection Summary							
Average Delay			2.9				
Intersection Capacity Utilization			44.1%		ICU Level of Service		A
Analysis Period (min)			15				

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  				 			
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	1.00	1.00	0.88	1.00	1.00	1.00
Frt					0.993	0.850			0.850			
Flt Protected	0.950							0.953				
Satd. Flow (prot)	3433	5085	0	0	4772	1362	0	1775	2787	0	0	0
Flt Permitted	0.950							0.953				
Satd. Flow (perm)	3433	5085	0	0	4772	1362	0	1775	2787	0	0	0
Satd. Flow (RTOR)					8	161			344			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	125	613	0	0	415	175	164	1	330	0	0	0
Adj. Flow (vph)	130	639	0	0	432	182	171	1	344	0	0	0
Lane Group Flow (vph)	130	639	0	0	453	161	0	172	344	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Total Split (s)	24.0	56.5	0.0	0.0	32.5	32.5	33.5	33.5	33.5	0.0	0.0	0.0
Act Effct Green (s)	9.0	67.9			54.9	54.9		14.1	14.1			
Actuated g/C Ratio	0.10	0.75			0.61	0.61		0.16	0.16			
v/c Ratio	0.38	0.17			0.16	0.18		0.62	0.47			
Control Delay	37.7	1.5			8.4	2.3		44.5	5.9			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	37.7	1.5			8.4	2.3		44.5	5.9			
LOS	D	A			A	A		D	A			
Approach Delay		7.6			6.8			18.7				
Approach LOS		A			A			B				

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 77 (86%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 10.4





Intersection LOS: B



















Intersection Capacity Utilization 40.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 30: Siempre Viva Rd & SR 905 NB On Ramp

 ø2	 ø8
56.5 s	33.5 s
 ø6	 ø5
32.5 s	24 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	1.00	1.00	0.88	1.00	1.00	1.00
Frt					0.986	0.850			0.850			
Flt Protected	0.950							0.954				
Satd. Flow (prot)	3433	5085	0	0	4739	1362	0	1777	2787	0	0	0
Flt Permitted	0.950							0.954				
Satd. Flow (perm)	3433	5085	0	0	4739	1362	0	1777	2787	0	0	0
Satd. Flow (RTOR)					19	328			247			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	297	352	0	0	681	373	49	2	230	0	0	0
Adj. Flow (vph)	319	378	0	0	732	401	53	2	247	0	0	0
Lane Group Flow (vph)	319	378	0	0	805	328	0	55	247	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Total Split (s)	26.1	61.5	0.0	0.0	35.4	35.4	28.5	28.5	28.5	0.0	0.0	0.0
Act Effct Green (s)	14.5	73.5			55.0	55.0		8.5	8.5			
Actuated g/C Ratio	0.16	0.82			0.61	0.61		0.09	0.09			
v/c Ratio	0.58	0.09			0.28	0.34		0.33	0.51			
Control Delay	32.3	0.9			9.0	2.3		42.7	9.0			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	32.3	0.9			9.0	2.3		42.7	9.0			
LOS	C	A			A	A		D	A			
Approach Delay		15.2			7.0			15.2				
Approach LOS		B			A			B				

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 66 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 10.9





Intersection LOS: B





























Intersection Capacity Utilization 44.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 30: Siempre Viva Road & SR905 NB On Ramp

	
ø2	ø8
61.5 s	28.5 s
	
ø5	ø6
26.1 s	35.4 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 			 			 	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Fr _t			0.850						0.850		0.932	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3539	0	1770	3539	1583	1770	3299	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5085	1583	1770	3539	0	1770	3539	1583	1770	3299	0
Satd. Flow (RTOR)			154						5		58	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	517	448	140	21	288	1	120	51	5	8	64	53
Adj. Flow (vph)	568	492	154	23	316	1	132	56	5	9	70	58
Lane Group Flow (vph)	568	492	154	23	317	0	132	56	5	9	128	0
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Total Split (s)	36.0	48.1	48.1	9.4	21.5	0.0	12.0	24.0	24.0	8.5	20.5	0.0
Act Effct Green (s)	27.7	40.5	40.5	5.4	12.1		8.1	18.4	18.4	4.6	7.7	
Actuated g/C Ratio	0.39	0.56	0.56	0.07	0.17		0.11	0.26	0.26	0.06	0.11	
v/c Ratio	0.83	0.17	0.16	0.19	0.53		0.66	0.06	0.01	0.09	0.32	
Control Delay	33.1	8.4	2.4	39.7	31.8		52.0	24.8	17.4	39.9	21.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	33.1	8.4	2.4	39.7	31.8		52.0	24.8	17.4	39.9	21.6	
LOS	C	A	A	D	C		D	C	B	D	C	
Approach Delay		19.2			32.3			43.2			22.8	
Approach LOS		B			C			D			C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 71.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 24.3









Intersection Capacity Utilization 60.0%





























Analysis Period (min) 15

Intersection LOS: C

ICU Level of Service B

Splits and Phases: 32: Siempre Viva Rd & Paseo De Las Americas

			
ø1	ø2	ø3	ø4
9.4 s	48.1 s	12 s	20.5 s
			
ø5	ø6	ø7	ø8
36 s	21.5 s	8.5 s	24 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 			 			 	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Fr't			0.850		0.995				0.850		0.926	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3522	0	1770	3539	1583	1770	3277	0
Flt Permitted	0.950			0.950			0.459			0.666		
Satd. Flow (perm)	1770	5085	1583	1770	3522	0	855	3539	1583	1241	3277	0
Satd. Flow (RTOR)			67		3				8		89	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	630	149	59	30	378	14	269	120	7	6	80	78
Adj. Flow (vph)	716	169	67	34	430	16	306	136	8	7	91	89
Lane Group Flow (vph)	716	169	67	34	446	0	306	136	8	7	180	0
Turn Type	Prot		Perm	Prot			pm+pt		Perm	pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2				8		8	4		
Total Split (s)	57.0	67.3	67.3	10.6	20.9	0.0	21.6	31.0	31.0	11.1	20.5	0.0
Act Effct Green (s)	46.0	60.5	60.5	6.5	16.1		29.5	27.5	27.5	15.6	9.1	
Actuated g/C Ratio	0.44	0.58	0.58	0.06	0.15		0.28	0.26	0.26	0.14	0.09	
v/c Ratio	0.91	0.06	0.07	0.32	0.81		0.79	0.15	0.02	0.03	0.49	
Control Delay	45.0	10.8	3.2	60.2	57.1		50.4	33.1	19.1	33.0	30.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	45.0	10.8	3.2	60.2	57.1		50.4	33.1	19.1	33.0	30.1	
LOS	D	B	A	E	E		D	C	B	C	C	
Approach Delay		36.0			57.3			44.6			30.2	
Approach LOS		D			E			D			C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 104

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 42.3









Intersection Capacity Utilization 78.8%

Analysis Period (min) 15




















Intersection LOS: D

ICU Level of Service D




















Splits and Phases: 32: Siempre Viva Road & Paseo De Las Americas

 ø1	 ø2	 ø3	 ø4
10.6 s	67.3 s	21.6 s	20.5 s
 ø5	 ø6	 ø7	 ø8
57 s	20.9 s	11.1 s	31 s





















040501 - Otay Crossings

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	54	295	62	20	236	1	21	17	22	2	5	27
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	64	351	74	24	281	1	25	20	26	2	6	32
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)		1276										
pX, platoon unblocked												
vC, conflicting volume	282			425			740	846	212	670	883	141
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	282			425			740	846	212	670	883	141
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			98			91	93	97	99	98	96
cM capacity (veh/h)	1277			1131			273	277	793	296	263	881
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2			
Volume Total	64	234	191	24	187	95	71	8	32			
Volume Left	64	0	0	24	0	0	25	2	0			
Volume Right	0	0	74	0	0	1	26	0	32			
cSH	1277	1700	1700	1131	1700	1700	361	272	881			
Volume to Capacity	0.05	0.14	0.11	0.02	0.11	0.06	0.20	0.03	0.04			
Queue Length 95th (ft)	4	0	0	2	0	0	18	2	3			
Control Delay (s)	8.0	0.0	0.0	8.3	0.0	0.0	17.4	18.7	9.2			
Lane LOS	A			A			C	C	A			
Approach Delay (s)	1.0			0.6			17.4	11.2				
Approach LOS							C	B				
Intersection Summary												
Average Delay			2.7									
Intersection Capacity Utilization			33.5%			ICU Level of Service				A		
Analysis Period (min)			15									

040501 - Otay Crossings

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	39	93	20	17	287	5	51	15	0	1	19	52
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	43	102	22	19	315	5	56	16	0	1	21	57
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)		1290			1303							
pX, platoon unblocked												
vC, conflicting volume	321			124			462	557	62	501	565	160
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	321			124			462	557	62	501	565	160
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			99			87	96	100	100	95	93
cM capacity (veh/h)	1236			1460			418	417	990	424	412	856
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2			
Volume Total	43	68	56	19	210	111	73	22	57			
Volume Left	43	0	0	19	0	0	56	1	0			
Volume Right	0	0	22	0	0	5	0	0	57			
cSH	1236	1700	1700	1460	1700	1700	418	413	856			
Volume to Capacity	0.03	0.04	0.03	0.01	0.12	0.07	0.17	0.05	0.07			
Queue Length 95th (ft)	3	0	0	1	0	0	16	4	5			
Control Delay (s)	8.0	0.0	0.0	7.5	0.0	0.0	15.4	14.2	9.5			
Lane LOS	A			A			C	B	A			
Approach Delay (s)	2.1			0.4			15.4	10.8				
Approach LOS							C	B				
Intersection Summary												
Average Delay			3.7									
Intersection Capacity Utilization			31.7%			ICU Level of Service				A		
Analysis Period (min)			15									

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Fr _t		0.917			0.993			0.997			0.898	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	1708	0	1863	3514	0	1770	3529	0	1863	3178	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	1708	0	1863	3514	0	1770	3529	0	1863	3178	0
Satd. Flow (RTOR)		5			5			2			58	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	283	3	4	0	80	4	9	134	2	0	21	45
Adj. Flow (vph)	368	4	5	0	104	5	12	174	3	0	27	58
Lane Group Flow (vph)	368	9	0	0	109	0	12	177	0	0	85	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Total Split (s)	22.0	33.0	0.0	15.0	26.0	0.0	15.0	27.0	0.0	15.0	27.0	0.0
Act Effct Green (s)	10.1	16.1			7.3		6.7	14.6			13.1	
Actuated g/C Ratio	0.27	0.43			0.19		0.15	0.42			0.37	
v/c Ratio	0.40	0.01			0.17		0.04	0.12			0.07	
Control Delay	13.2	4.4			15.6		20.3	11.5			8.8	
Queue Delay	0.0	0.0			0.0		0.0	0.0			0.0	
Total Delay	13.2	4.4			15.6		20.3	11.5			8.8	
LOS	B	A			B		C	B			A	
Approach Delay		13.0			15.6			12.0			8.8	
Approach LOS		B			B			B			A	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 35.1

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.40

Intersection Signal Delay: 12.7









Intersection Capacity Utilization 28.6%

Analysis Period (min) 15





















Intersection LOS: B

ICU Level of Service A

Splits and Phases: 34: Siempre Viva Rd & Enrico Fermi Dr

 ø1	 ø2	 ø3	 ø4
15 s	33 s	15 s	27 s
 ø6	 ø5	 ø7	 ø8
26 s	22 s	15 s	27 s

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.872			0.953			0.998			0.854	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1624	0	1770	3373	0	1770	3532	0	1770	3022	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1624	0	1770	3373	0	1770	3532	0	1770	3022	0
Satd. Flow (RTOR)		23			11			1			809	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	61	4	22	11	23	11	146	169	2	3	4	144
Adj. Flow (vph)	64	4	23	11	24	11	152	176	2	3	4	150
Lane Group Flow (vph)	64	27	0	11	35	0	152	178	0	3	154	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Total Split (s)	13.5	26.8	0.0	13.5	26.8	0.0	24.2	36.2	0.0	13.5	25.5	0.0
Act Effct Green (s)	7.4	9.5		6.8	6.8		11.6	47.9		6.4	32.3	
Actuated g/C Ratio	0.11	0.14		0.09	0.10		0.18	0.75		0.09	0.51	
v/c Ratio	0.17	0.11		0.07	0.10		0.47	0.07		0.02	0.08	
Control Delay	25.9	13.6		29.7	21.9		25.2	5.9		30.0	0.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	25.9	13.6		29.7	21.9		25.2	5.9		30.0	0.1	
LOS	C	B		C	C		C	A		C	A	
Approach Delay		22.3			23.8			14.8			0.7	
Approach LOS		C			C			B			A	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 63.8

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.47

Intersection Signal Delay: 13.0









Intersection LOS: B

Intersection Capacity Utilization 31.3%












ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 34: Siempre Viva Road & Enrico Fermi Rd

			
ø2	ø1	ø4	ø3
26.8 s	13.5 s	25.5 s	24.2 s
			
ø5	ø6	ø8	ø7
13.5 s	26.8 s	36.2 s	13.5 s

040501 - Otay Crossings

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr't		0.850	0.996			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1855	0	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	1855	0	1770	1863
Satd. Flow (RTOR)		5	3			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	6	5	634	19	1	166
Adj. Flow (vph)	7	5	689	21	1	180
Lane Group Flow (vph)	7	5	710	0	1	180
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Total Split (s)	25.5	25.5	51.0	0.0	13.5	64.5
Act Effct Green (s)	6.5	6.5	110.3		6.2	112.7
Actuated g/C Ratio	0.05	0.05	0.95		0.05	0.97
v/c Ratio	0.08	0.06	0.40		0.01	0.10
Control Delay	27.7	18.0	2.3		27.0	0.5
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	27.7	18.0	2.3		27.0	0.5
LOS	C	B	A		C	A
Approach Delay	23.6		2.3			0.7
Approach LOS	C		A			A

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 116.1

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.40

Intersection Signal Delay: 2.2





Intersection LOS: A












Intersection Capacity Utilization 44.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 67: Paseo De La Fuente & Alta Rd.

 ø2	 ø1	
51 s	13.5 s	
 ø6	 ø8	
64.5 s	25.5 s	

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.996			
Flt Protected	0.950					
Satd. Flow (prot)	1770	1583	1855	0	1863	1863
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1583	1855	0	1863	1863
Satd. Flow (RTOR)		2	2			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	221	2	98	3	0	506
Adj. Flow (vph)	273	2	121	4	0	625
Lane Group Flow (vph)	273	2	125	0	0	625
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Total Split (s)	37.3	37.3	34.2	0.0	18.5	52.7
Act Effct Green (s)	12.7	12.7	24.8			24.8
Actuated g/C Ratio	0.28	0.28	0.54			0.54
v/c Ratio	0.56	0.00	0.12			0.62
Control Delay	18.3	10.5	6.4			11.4
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	18.3	10.5	6.4			11.4
LOS	B	B	A			B
Approach Delay	18.2		6.4			11.4
Approach LOS	B		A			B

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 45.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 12.6





Intersection Capacity Utilization 45.5%

Analysis Period (min) 15

Intersection LOS: B

ICU Level of Service A

Splits and Phases: 67: Paseo De La Fuente & Alta Rd

		
ø1	ø2	
18.5 s	34.2 s	
		
ø6		ø8
52.7 s		37.3 s

Existing + Project Units 1-5 Intersection ILV Analysis

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Heritage

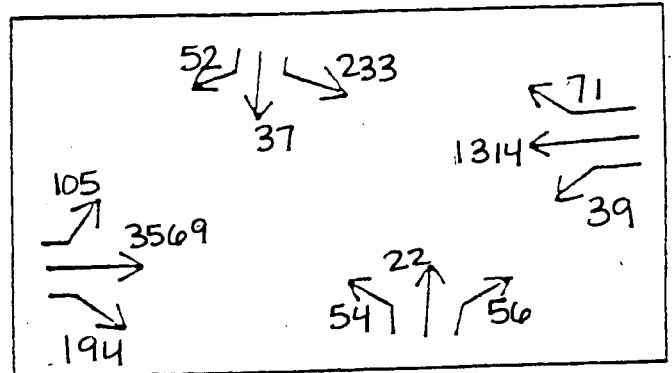
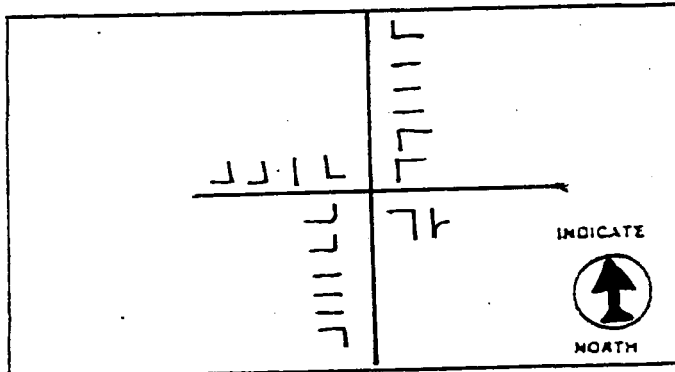
DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-5

BY JP DATE 4-6-10

TIME (AM) PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
00	20
11	19
52	
53	

Phase 2	
21	
438	
438	
438	
1190	
1190	
1189	
144	

Phase 3	
233	
50	
54	

Phase 4	
37	
16	
16	
1	
78	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
53

Phase 2
1,190

Phase 3
233

Phase 4
78

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,554

Is . . .

☐ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☒ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Heritage

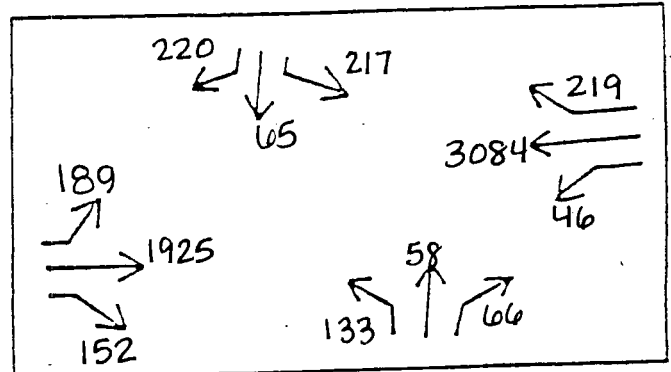
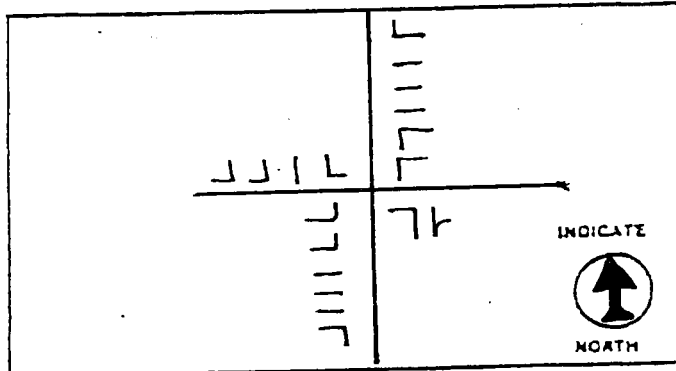
DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-5

BY JB DATE 4-6-10

TIME AM (PM)

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
57 90 90	23 23
94 95	

Phase 2	
	119 1028 1028 1028
642 642 641 77	

Phase 3	
112 75	100 133

Phase 4	
66 66 51	
	124

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
95

Phase 2
1,028

Phase 3
217

Phase 4
124

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,464

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Cactus

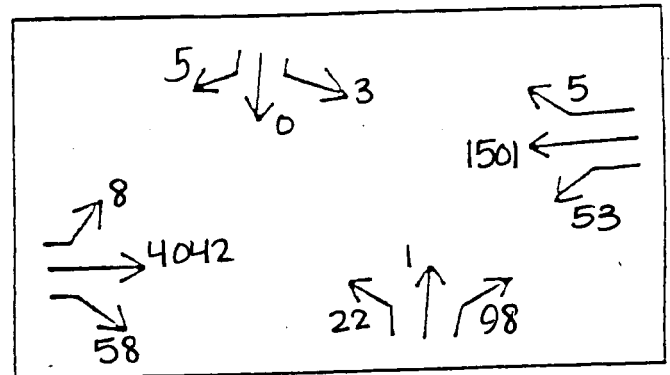
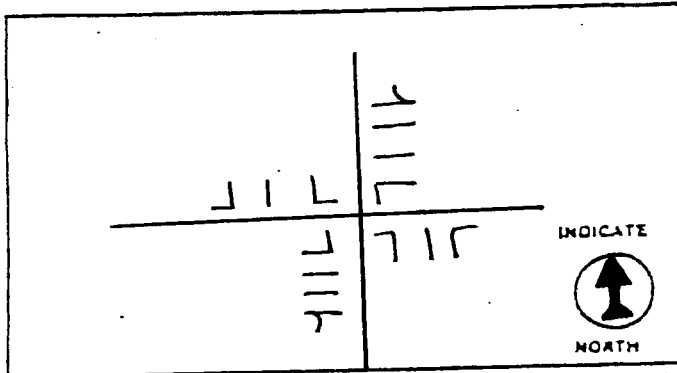
DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-5

BY LB DATE 4-6-10

TIME AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
0	53
8	50

Phase 2	
502	502
502	502
1366	1367
1367	1367

Phase 3	
22	4042
58	53

Phase 4	
53	150
53	53

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
53

Phase 2
1367

Phase 3
22

Phase 4
48

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,490

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Cactus

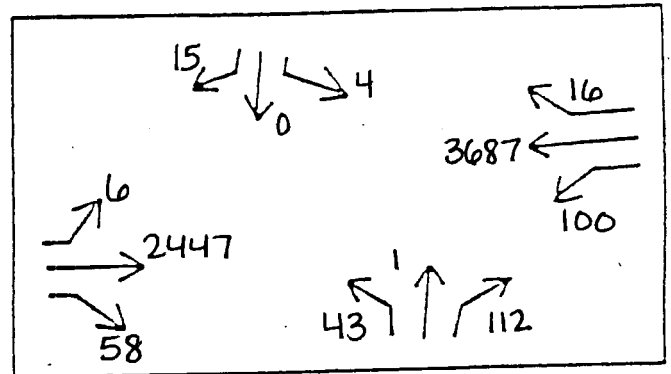
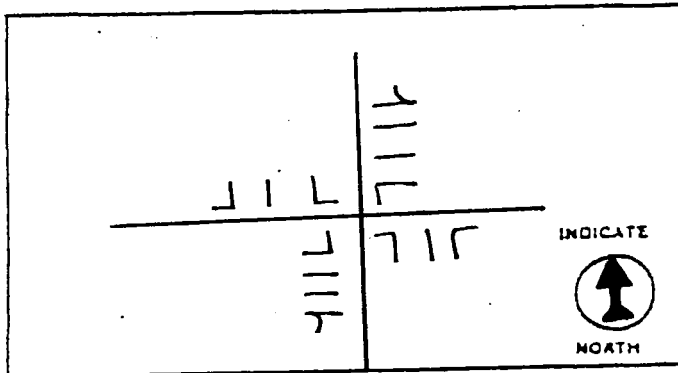
DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-5

BY AB DATE 4-6-10

TIME _____ AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
1	100
6	75

Phase 2	
1234	1234
1235	1234
835	835
835	835
835	835

Phase 3	
1	1
43	43

Phase 4	
10	10
1	1
1	1
1	1

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
100

Phase 2
1,235

Phase 3
43

Phase 4
37

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,415

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

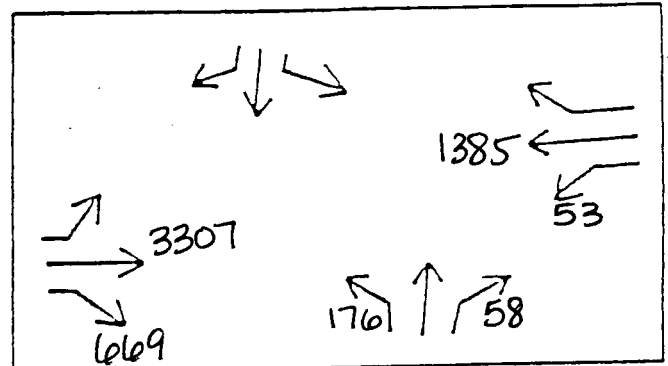
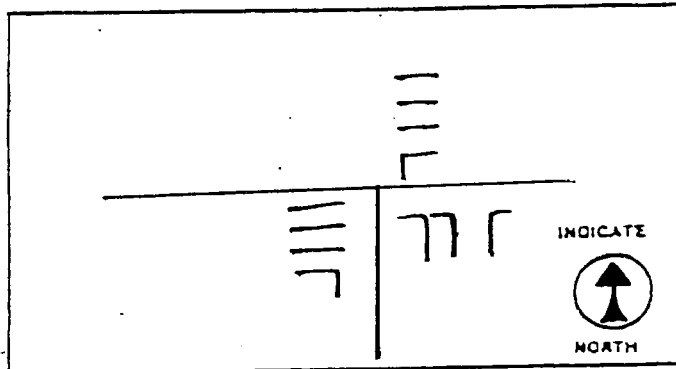
INTERSECTION Otay Mesa Rd / Britannia Blvd DIST. CO. RTE. P.M. 11/SD/905

BY VJB DATE 4-6-10

TIME AM PM

Existing + Units 1-5

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
— 53	
— 53	
— 53	
— 53	

Phase 2	
— 408	
— 409	
— 409	
1102 —	
1103 —	
1102 —	
581 —	

Phase 3	
88 —	
88 —	
88 —	

Phase 4	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
53

Phase 2
1,103

Phase 3
88

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,244

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

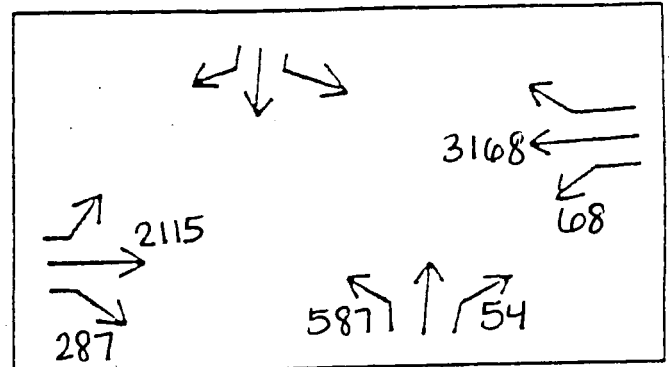
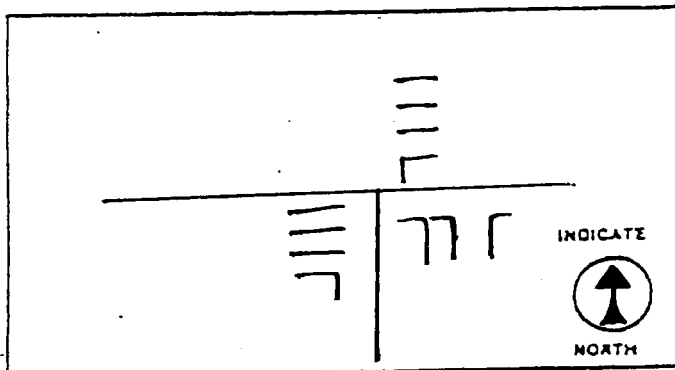
INTERSECTION Otay Mesa Rd / Britannia Blvd DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-5

BY VJB DATE 4-6-10

TIME _____ AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
— 68	
— 68	
— 68	
└ 68	

Phase 2	
— 988	
— 988	
— 988	
705 —	
705 —	
705 —	
187 └	

Phase 3	
100 └	└ 77
	└ 294
	└ 54

Phase 4	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
68

Phase 2
988

Phase 3
294

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,350

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa Rd/La Media Rd

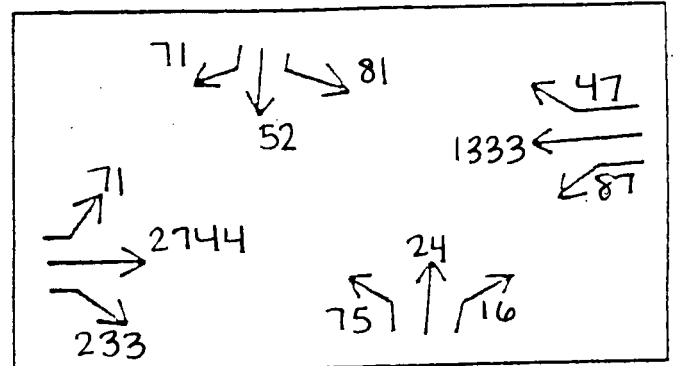
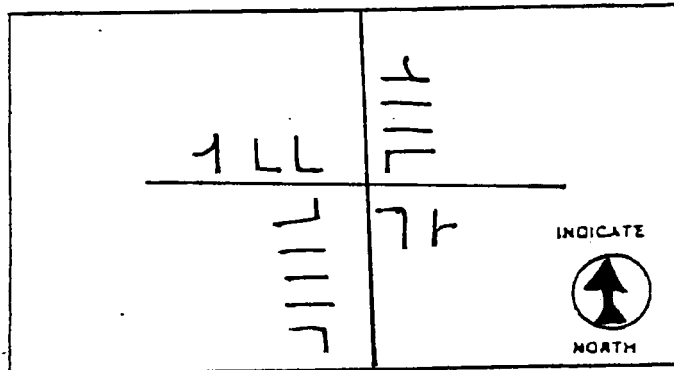
DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-5

BY JB DATE 4-6-10

TIME (AM) PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
	87
71	

Phase 2	
	460
	460
	460
914	
915	
915	
183	

Phase 3	
50	75

Phase 4	
123	
	40

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
87

Phase 2
915

Phase 3
75

Phase 4
123

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,200

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

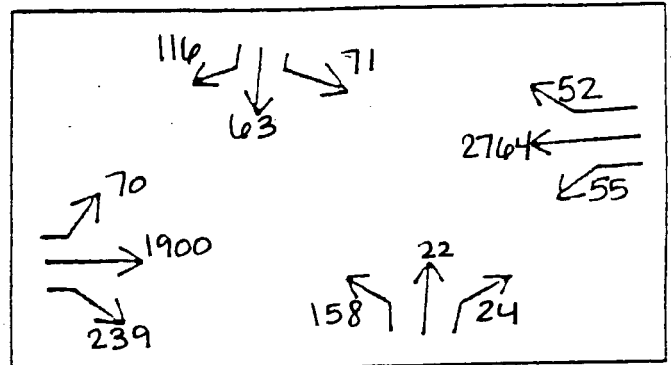
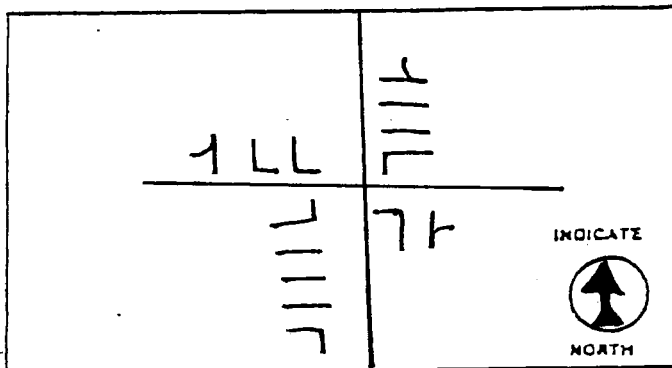
INTERSECTION Otay Mesa Rd/La Media Rd DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-5

BY JB DATE 4-6-10

TIME _____ AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1		Phase 2		Phase 3		Phase 4	
	55	938 939 939		36 35		179	
70		633 634 633 164		75 158			40

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
70	939	158	179

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,346

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Piper Ranch

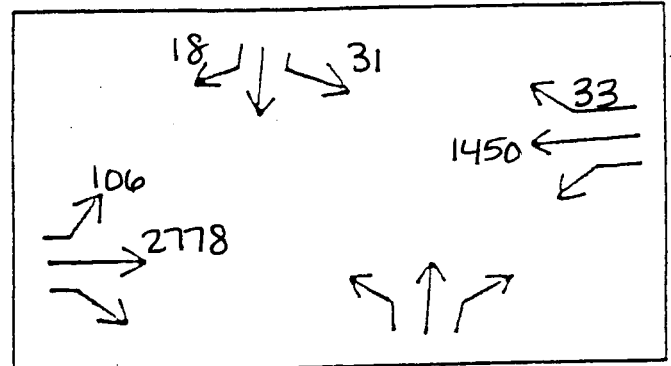
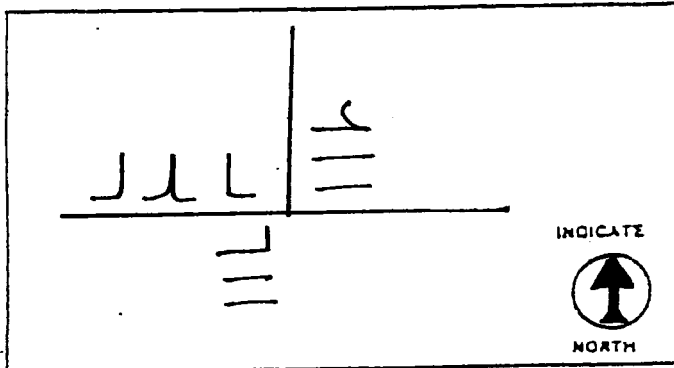
DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-5

BY JB DATE 4-6-10

TIME (AM) PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
<div> <div> <div>106</div> <div>106</div> <div>106</div> </div> <div> <div>494</div> <div>495</div> <div>494</div> </div> </div>	<div> <div>1283</div> <div>1283</div> </div>	<div> <div>17</div> </div>	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
106	1,283	17	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,406

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/Piper Ranch

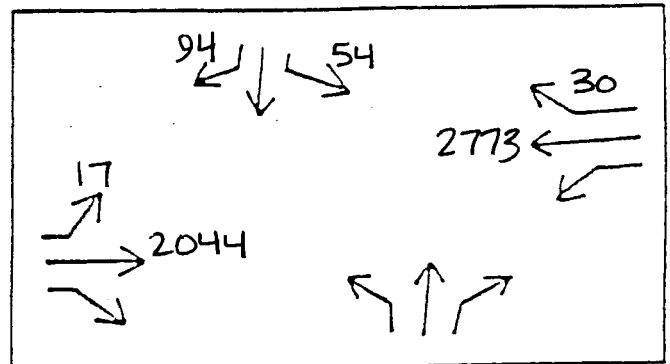
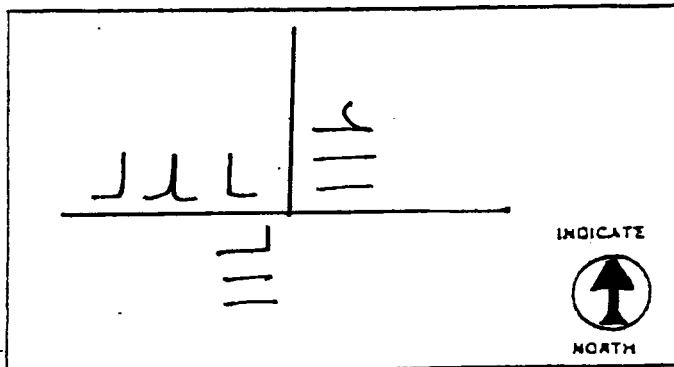
DIST. CO. RTE. P.M. 11/SD/905

BY JB DATE 4-6-10

Existing + Units 1-5

TIME _____ AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
17	—
17	—
17	—

Phase 2	
934	—
935	—
934	—
1005	—
1005	—

Phase 3	
50	—
50	—
50	—

Phase 4	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
17

Phase 2
1,005

Phase 3
50

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,072

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / SR-125 SB Ramp

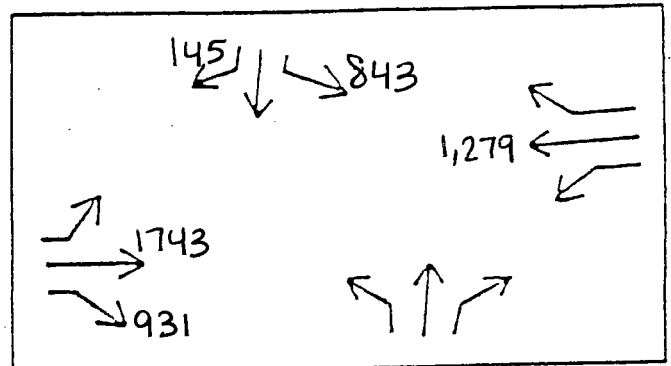
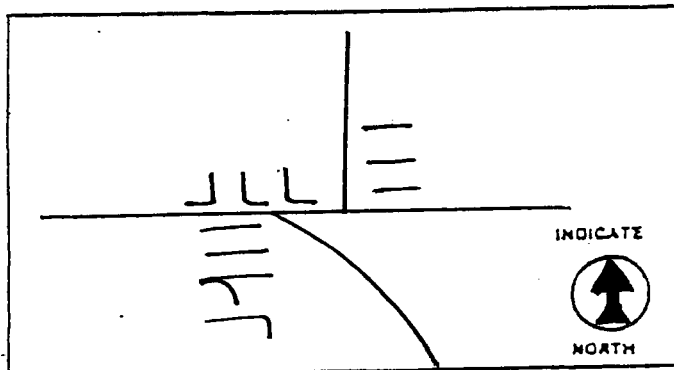
DIST. CO. RTE. P.M. 11/SD/905

Existing + Units 1-5

BY JLB DATE 4-6-10

TIME AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
Left	426
Through	427
Right	426
Left	581
Through	581
Right	581
Left	531

Phase 2	
Left	421
Through	422
Right	400

Phase 3	
Left	
Through	
Right	

Phase 4	
Left	
Through	
Right	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
581

Phase 2
422

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,003

Is . . . ☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / SR-125 SB Ramp

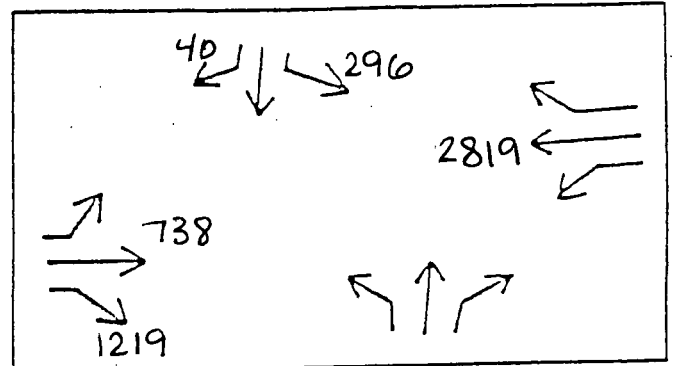
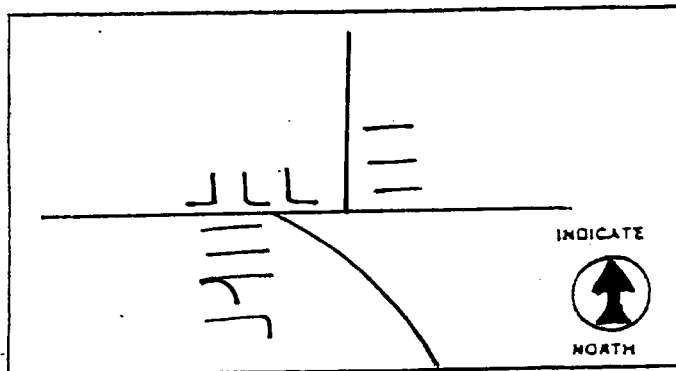
DIST. CO. RTE. P.M. 11/SD/905

BY JLB DATE 4-6-10

TIME AM PM

Existing + Units 1-5

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
	939
	940
	946
369	
369	
559	
560	

Phase 2	
100	

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
940

Phase 2
148

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,088

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

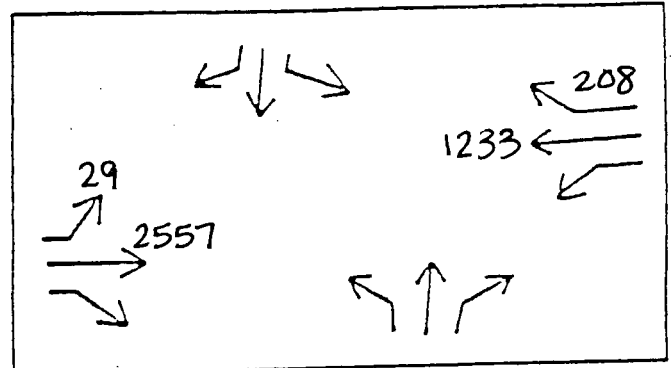
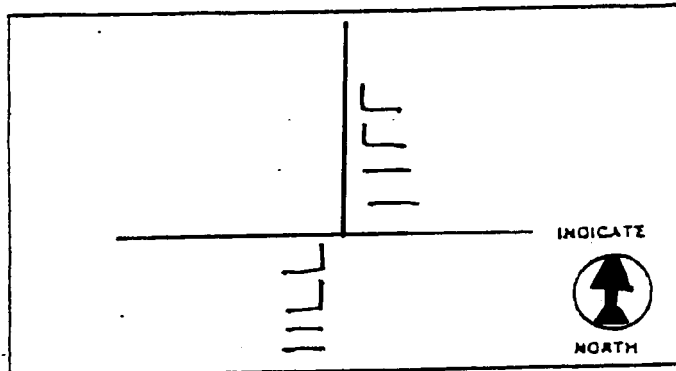
INTERSECTION Otay Mesa/SR-125 NB Ramp DIST. CO. RTE. P.M. 11/50/905

BY JLB DATE 4-6-10

TIME AM PM

Existing + Units 1-5

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
14	└─┘
15	└─┘
15	└─┘
15	└─┘

Phase 2	
	└─┘ 104
	└─┘ 104
	└─┘ 617
	└─┘ 616
1263	=
1264	=

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
15

Phase 2
1,264

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,279

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/SR-125 NB Ramp

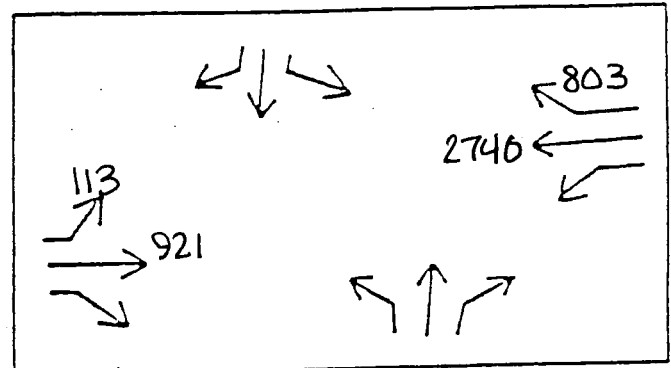
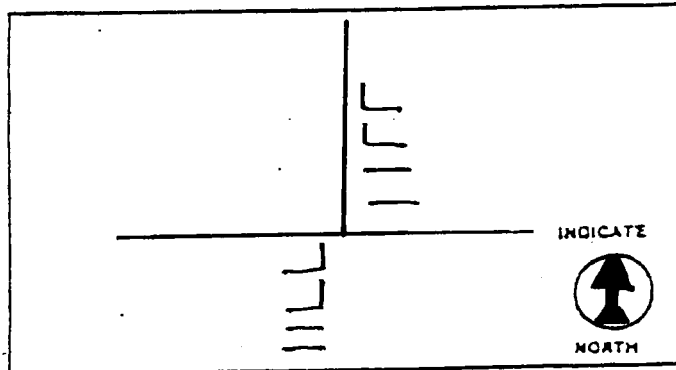
DIST. CO. RTE. P.M. 11/50/905

BY JB DATE 4-6-10

Existing + Units 1-5

TIME _____ AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
56	└─
57	└─
57	└─
57	└─

Phase 2	
	└─ 402
	└─ 401
	└─ 1370
	└─ 1370
403	└─
404	└─

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
57

Phase 2
1,370

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,427

Is . . .

☐ < 1200 ILV/hr.

☒ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / SR-905 NB
Connector

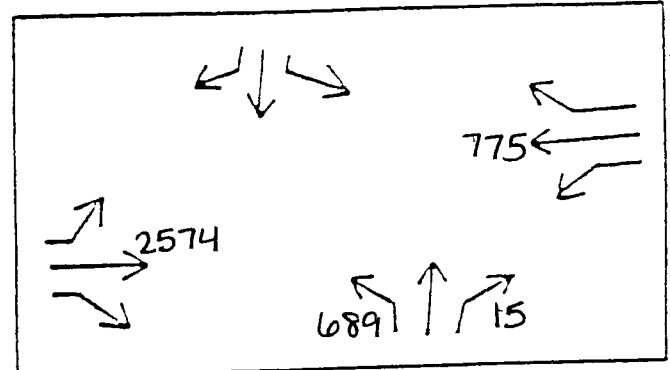
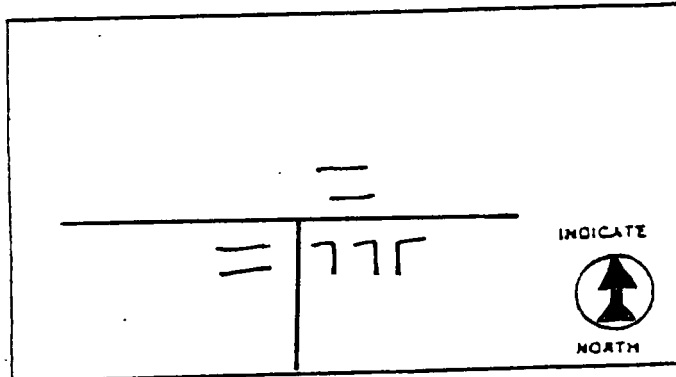
DIST. CO. RTE. P.M. 11/SD/905

BY JB DATE 4-6-10

TIME (AM) PM

Existing + Units 1-5

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
—388 —387	
1287—	
1287—	

Phase 2	
	777
	345
	15

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
1,287

Phase 2
345

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,632

Is . . .

☐ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☒ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / SR-905 NB
Connector

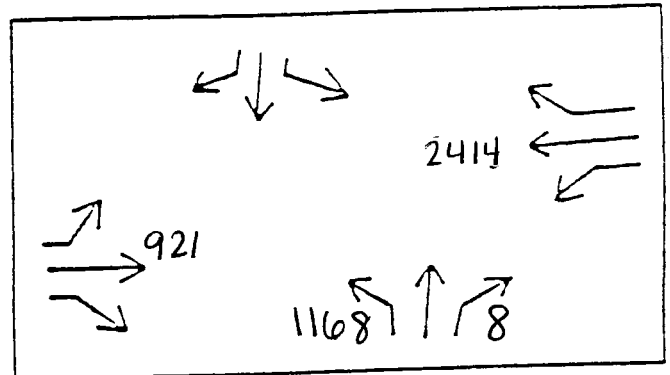
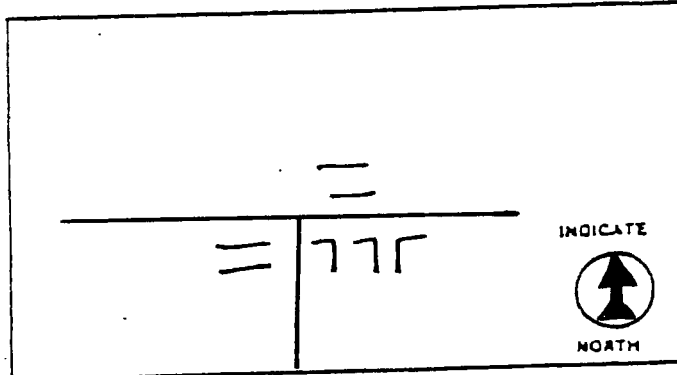
DIST. CO. RTE. P.M. 11/5D/905

BY JB DATE 4-6-10

TIME _____ AM (PM)

Existing + Units 1-5

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
— 1207	
— 1207	
460—	
461—	

Phase 2	
777	
584	
584	

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
1,207

Phase 2
584

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,791

Is . . .

☐ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☒ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SR-905 SB
Ramp

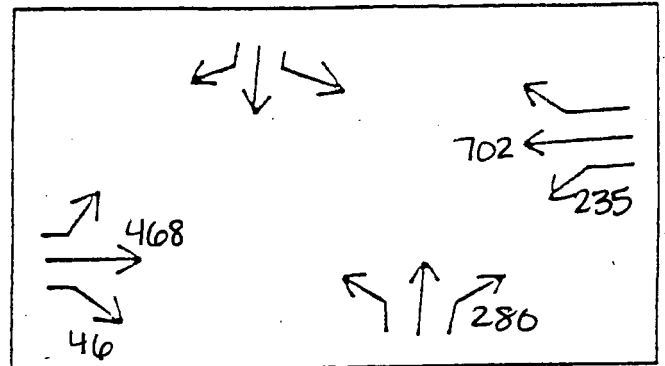
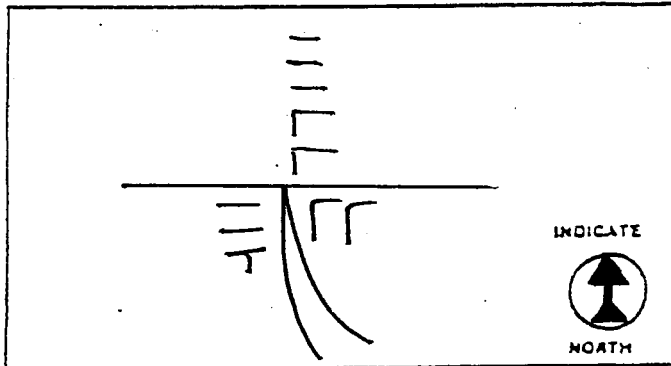
DIST. CO. RTE. P.M. 11 / SD / 905

Existing + Units 1-5

BY DB DATE 4-6-10

TIME AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
<div> <div>— 39</div> <div>— 39</div> <div>— 39</div> <div>└ 117</div> <div>└ 118</div> </div>	<div> <div>— 94</div> <div>— 94</div> <div>— 94</div> </div>	<div> <div>— 101</div> <div>— 101</div> <div>— 101</div> </div>	
<div> <div>└ 101</div> <div>└ 101</div> </div>	<div> <div>└ 171</div> <div>└ 172</div> <div>└ 171</div> </div>	<div> <div>└ 101</div> <div>└ 101</div> </div>	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
118	172	101	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
391

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SR-905 SB
Ramp

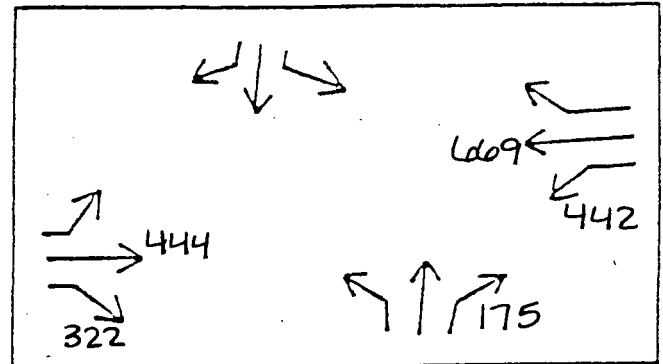
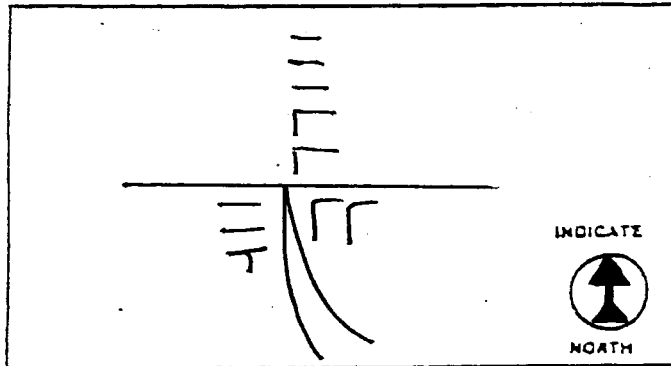
DIST. CO. RTE. P.M. 11 / SD / 905

BY DB DATE 4-6-10

TIME AM (PM)

Existing + Units 1-5

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
<div> <div>— 73</div> <div>— 74</div> <div>— 74</div> <div>└ 221</div> <div>└ 221</div> </div>	<div> <div>— 99</div> <div>— 100</div> <div>— 99</div> </div>	<div> <div>— 50</div> <div>— 50</div> <div>— 50</div> </div>	
<div> <div>└ 221</div> <div>└ 221</div> <div>└ 221</div> <div>└ 221</div> </div>	<div> <div>222</div> <div>222</div> <div>322</div> </div>	<div> <div>└ 50</div> <div>└ 50</div> <div>└ 50</div> </div>	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
221	322	50	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
593

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SE-905 NB
Ramp

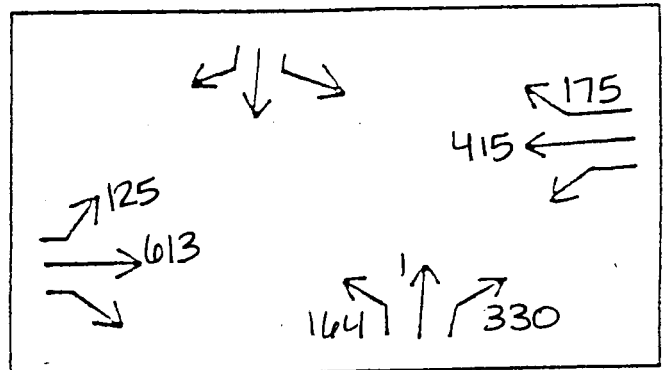
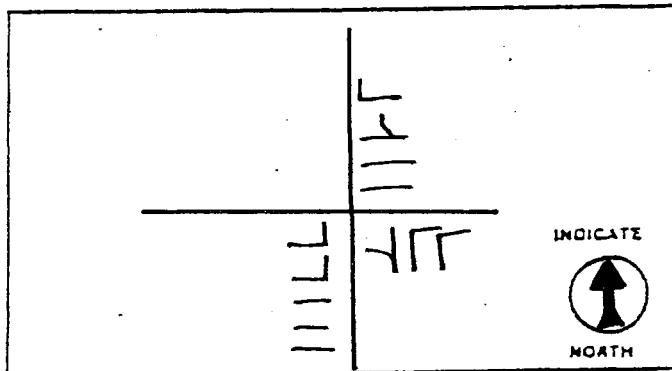
DIST. CO. RTE. P.M. 11/SD/905

BY QUR DATE 4-6-10

TIME AM PM

Existing + Units 1-5

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
62	1
63	1
63	1
63	1
63	1

Phase 2	
125	1
155	1
155	1
155	1
141	1
142	1
141	1

Phase 3	
165	1
165	1
165	1

Phase 4	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
63

Phase 2
155

Phase 3
165

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
383

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SR-905 NB
Ramp

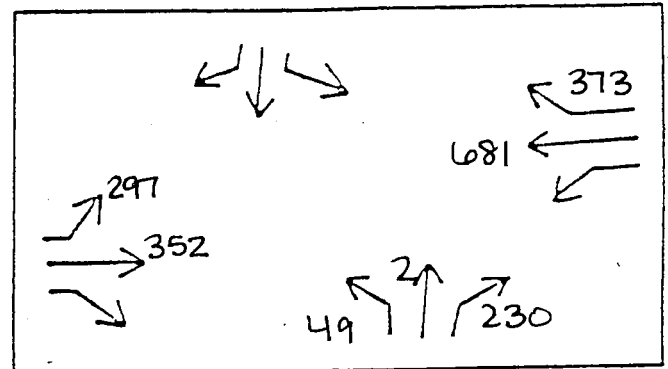
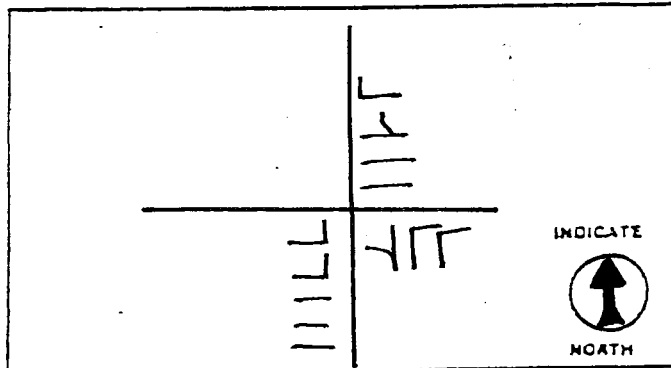
DIST. CO. RTE. P.M. 11/SD/905

BY DR DATE 4-6-10

TIME AM (PM)

Existing + Units 1-5

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1		Phase 2		Phase 3		Phase 4	
148	└	67	—		└		
149	└	68	—		└		
49	—	68	—		└		
50	—				└		
50	—				└		

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
149	273	115	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
537

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

APPENDIX J

































- Cumulative – Intersection Synchro Analysis
 - Cumulative – Intersection ILV Analysis

Cumulative – Intersection Synchro Analysis

040501 - Otay Crossings

1: Otay Mesa Road & Heritage Road

Cum 2020 w/SR-905 [Phases 1A & 1B] - AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 			 	 
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frts			0.850			0.850		0.949				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4803	1583	3433	4803	1583	1770	1768	0	1770	1863	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4803	1583	3433	4803	1583	1770	1768	0	1770	1863	2787
Satd. Flow (RTOR)			65			129		22				97
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	180	1000	60	10	410	120	20	40	20	390	60	90
Adj. Flow (vph)	194	1075	65	11	441	129	22	43	22	419	65	97
Lane Group Flow (vph)	194	1075	65	11	441	129	22	65	0	419	65	97
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot			Prot		pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases			2			6						4
Total Split (s)	9.2	22.0	8.5	8.5	21.3	23.0	8.5	20.5	0.0	23.0	35.0	9.2
Act Effct Green (s)	6.6	27.8	35.5	4.5	18.9	43.6	4.5	7.8		24.6	29.7	40.3
Actuated g/C Ratio	0.09	0.38	0.48	0.06	0.26	0.59	0.06	0.11		0.33	0.40	0.54
v/c Ratio	0.63	0.60	0.08	0.05	0.36	0.13	0.20	0.31		0.71	0.09	0.06
Control Delay	45.0	22.6	3.7	25.1	19.9	1.5	37.7	25.8		28.9	13.7	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	45.0	22.6	3.7	25.1	19.9	1.5	37.7	25.8		28.9	13.7	2.1
LOS	D	C	A	C	B	A	D	C		C	B	A
Approach Delay		24.9			15.9			28.8			22.7	
Approach LOS		C			B			C			C	

Intersection Summary

Cycle Length: 74

Actuated Cycle Length: 74

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 22.5









Intersection LOS: C

Intersection Capacity Utilization 60.9%

ICU Level of Service B

























Analysis Period (min) 15

Splits and Phases: 1: Otay Mesa Road & Heritage Road

			
ø2	ø1	ø3	ø4
22 s	8.5 s	8.5 s	35 s
			
ø5	ø6	ø8	ø7
9.2 s	21.3 s	20.5 s	23 s

040501 - Otay Crossings

1: Otay Mesa Road & Heritage Road
Cum 2020 w/SR-905 [Phases 1A & 1B] - PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frts			0.850			0.850		0.972				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4803	1583	3433	4803	1583	1770	1811	0	1770	1863	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4803	1583	3433	4803	1583	1770	1811	0	1770	1863	2787
Satd. Flow (RTOR)			52			322		12				272
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	320	600	50	20	820	370	40	90	20	370	100	370
Adj. Flow (vph)	330	619	52	21	845	381	41	93	21	381	103	381
Lane Group Flow (vph)	330	619	52	21	845	381	41	114	0	381	103	381
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot			Prot		pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases			2			6						4
Total Split (s)	15.0	29.8	10.2	8.5	23.3	27.2	10.2	20.5	0.0	27.2	37.5	15.0
Act Effct Green (s)	12.1	36.9	45.4	4.5	24.2	47.4	6.2	10.5		23.2	29.6	45.7
Actuated g/C Ratio	0.14	0.43	0.53	0.05	0.28	0.55	0.07	0.12		0.27	0.34	0.53
v/c Ratio	0.68	0.30	0.06	0.12	0.63	0.38	0.32	0.49		0.80	0.16	0.24
Control Delay	43.6	18.9	3.7	27.0	22.1	4.2	45.1	37.9		42.3	19.3	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	43.6	18.9	3.7	27.0	22.1	4.2	45.1	37.9		42.3	19.3	3.2
LOS	D	B	A	C	C	A	D	D		D	B	A
Approach Delay		26.2			16.7			39.8			22.4	
Approach LOS		C			B			D			C	

Intersection Summary

Cycle Length: 86

Actuated Cycle Length: 86

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 22.2









Intersection LOS: C

Intersection Capacity Utilization 62.1%

ICU Level of Service B























Analysis Period (min) 15

Splits and Phases: 1: Otay Mesa Road & Heritage Road

			
ø2	ø1	ø3	ø4
29.8 s	8.5 s	10.2 s	37.5 s
			
ø5	ø6	ø8	ø7
15 s	23.3 s	20.5 s	27.2 s

040501 - Otay Crossings

2: Otay Mesa Road & Cactus Rd
Cum 2020 w/SR-905 [Phases 1A & 1B] - AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.989				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4781	0	1770	4769	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4781	0	1770	4769	0	1770	1863	1583	1770	1863	1583
Satd. Flow (RTOR)		12			21				103			44
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	50	1260	60	60	510	40	20	10	100	20	10	40
Adj. Flow (vph)	55	1385	66	66	560	44	22	11	110	22	11	44
Lane Group Flow (vph)	55	1451	0	66	604	0	22	11	110	22	11	44
Turn Type	Prot			Prot			Prot	pm+ov		Prot		pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases									8			4
Total Split (s)	10.6	34.0	0.0	11.0	34.4	0.0	8.5	20.5	11.0	8.5	20.5	10.6
Act Effct Green (s)	8.4	54.8		6.9	53.3		7.0	7.2	9.2	5.7	6.4	9.8
Actuated g/C Ratio	0.11	0.74		0.09	0.72		0.09	0.10	0.12	0.08	0.09	0.13
v/c Ratio	0.28	0.41		0.40	0.18		0.13	0.06	0.38	0.16	0.07	0.18
Control Delay	40.3	1.7		30.5	3.1		32.0	29.5	9.4	35.0	31.7	7.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.3	1.7		30.5	3.1		32.0	29.5	9.4	35.0	31.7	7.6
LOS	D	A		C	A		C	C	A	D	C	A
Approach Delay		3.1			5.8			14.5			18.9	
Approach LOS		A			A			B			B	

Intersection Summary

Cycle Length: 74

Actuated Cycle Length: 74

Offset: 36 (49%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.41

Intersection Signal Delay: 5.1









Intersection LOS: A

Intersection Capacity Utilization 46.8%

ICU Level of Service A






















Analysis Period (min) 15

Splits and Phases: 2: Otay Mesa Road & Cactus Rd

			
ø2	ø1	ø4	ø3
34 s	11 s	20.5 s	8.5 s
			
ø5	ø6	ø7	ø8
10.6 s	34.4 s	8.5 s	20.5 s

040501 - Otay Crossings

2: Otay Mesa Road & Cactus Rd
Cum 2020 w/SR-905 [Phases 1A & 1B] - PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.987				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4772	0	1770	4764	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4772	0	1770	4764	0	1770	1863	1583	1770	1863	1583
Satd. Flow (RTOR)		13			21				112			102
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	40	870	60	100	1130	110	50	10	110	30	10	100
Adj. Flow (vph)	41	888	61	102	1153	112	51	10	112	31	10	102
Lane Group Flow (vph)	41	949	0	102	1265	0	51	10	112	31	10	102
Turn Type	Prot			Prot			Prot	pm+ov		Prot		pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases									8			4
Total Split (s)	13.2	31.3	0.0	17.5	35.6	0.0	13.7	24.4	17.5	12.8	23.5	13.2
Act Effct Green (s)	8.0	52.7		14.8	62.4		8.3	7.3	19.2	7.5	6.4	9.4
Actuated g/C Ratio	0.09	0.61		0.17	0.73		0.10	0.08	0.22	0.09	0.07	0.11
v/c Ratio	0.25	0.32		0.34	0.37		0.30	0.06	0.25	0.20	0.07	0.39
Control Delay	37.0	5.5		35.9	10.3		39.8	36.2	5.6	39.0	37.9	9.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.0	5.5		35.9	10.3		39.8	36.2	5.6	39.0	37.9	9.4
LOS	D	A		D	B		D	D	A	D	D	A
Approach Delay		6.8			12.2			17.5			17.8	
Approach LOS		A			B			B			B	

Intersection Summary

Cycle Length: 86

Actuated Cycle Length: 86

Offset: 49 (57%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.39

Intersection Signal Delay: 10.8









Intersection LOS: B

Intersection Capacity Utilization 47.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: Otay Mesa Road & Cactus Rd

	ø2		ø1		ø4		ø3
31.3 s		17.5 s		23.5 s		13.7 s	
	ø5		ø6		ø7		ø8
13.2 s		35.6 s		12.8 s		24.4 s	

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↓	↑↑↑	↓	↑
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Fr't		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4803	1583	1770	4803	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4803	1583	1770	4803	3433	1583
Satd. Flow (RTOR)		428				12
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	830	790	50	420	210	20
Adj. Flow (vph)	976	929	59	494	247	24
Lane Group Flow (vph)	976	929	59	494	247	24
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Total Split (s)	26.0	38.0	10.0	36.0	38.0	10.0
Act Effct Green (s)	38.7	61.4	7.4	48.1	17.9	29.3
Actuated g/C Ratio	0.52	0.83	0.10	0.65	0.24	0.40
v/c Ratio	0.39	0.67	0.33	0.16	0.30	0.04
Control Delay	7.6	7.5	42.3	2.2	21.8	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.6	7.5	42.3	2.2	21.8	6.0
LOS	A	A	D	A	C	A
Approach Delay	7.6			6.5	20.4	
Approach LOS	A			A	C	

Intersection Summary

Cycle Length: 74

Actuated Cycle Length: 74

Offset: 68 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 8.6

Intersection LOS: A

Intersection Capacity Utilization 58.9%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Otay Mesa Road & Britannia Blvd

↖ ø1	→ ø2	
10 s	26 s	
← ø6		↘ ø8
36 s		38 s

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↘	↑↑↑	↘	↑
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Fr _t		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4803	1583	1770	4803	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4803	1583	1770	4803	3433	1583
Satd. Flow (RTOR)		366				43
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	650	340	30	810	700	40
Adj. Flow (vph)	699	366	32	871	753	43
Lane Group Flow (vph)	699	366	32	871	753	43
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Total Split (s)	29.3	38.9	17.8	47.1	38.9	17.8
Act Effct Green (s)	47.2	76.5	7.2	54.3	23.7	34.9
Actuated g/C Ratio	0.55	0.89	0.08	0.63	0.28	0.41
v/c Ratio	0.27	0.25	0.22	0.29	0.80	0.06
Control Delay	3.7	0.8	35.6	4.7	35.4	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.7	0.8	35.6	4.7	35.4	4.1
LOS	A	A	D	A	D	A
Approach Delay	2.7			5.8	33.7	
Approach LOS	A			A	C	

Intersection Summary

Cycle Length: 86

Actuated Cycle Length: 86

Offset: 62 (72%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 12.6

Intersection LOS: B























Intersection Capacity Utilization 45.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Otay Mesa Road & Britannia Blvd

↖ ø1	→ ø2	
17.8 s	29.3 s	
← ø6		↗ ø8
47.1 s		38.9 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Flt			0.850		0.977			0.962			0.928	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4803	1583	1770	4733	0	1770	1716	0	3433	1677	0
Flt Permitted	0.950			0.950			0.459			0.702		
Satd. Flow (perm)	1770	4803	1583	1770	4733	0	855	1716	0	2537	1677	0
Satd. Flow (RTOR)			253		47			21			61	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	120	750	240	110	430	80	80	60	20	110	130	120
Adj. Flow (vph)	126	789	253	116	453	84	84	63	21	116	137	126
Lane Group Flow (vph)	126	789	253	116	537	0	84	84	0	116	263	0
Turn Type	Prot	pm+ov		Prot			pm+pt			pm+pt		
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2				8			4		
Total Split (s)	16.8	22.9	11.7	15.4	21.5	0.0	11.7	26.7	0.0	9.0	24.0	0.0
Act Effct Green (s)	11.6	29.7	37.0	9.5	27.7		16.3	11.0		24.0	14.3	
Actuated g/C Ratio	0.16	0.40	0.50	0.13	0.37		0.22	0.15		0.32	0.19	
v/c Ratio	0.45	0.41	0.28	0.51	0.30		0.31	0.31		0.12	0.70	
Control Delay	17.8	6.4	2.2	20.5	4.7		20.7	26.4		16.0	31.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	17.8	6.4	2.2	20.5	4.7		20.7	26.4		16.0	31.0	
LOS	B	A	A	C	A		C	C		B	C	
Approach Delay		6.7			7.5			23.5			26.4	
Approach LOS		A			A			C			C	

Intersection Summary

Cycle Length: 74

Actuated Cycle Length: 74

Offset: 6 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 11.3









Intersection LOS: B

Intersection Capacity Utilization 52.5%

ICU Level of Service A





























Analysis Period (min) 15

Splits and Phases: 4: Otay Mesa Road & La Media

			
ø1	ø2	ø4	ø3
15.4 s	22.9 s	24 s	11.7 s
			
ø6	ø5	ø8	ø7
21.5 s	16.8 s	26.7 s	9 s

040501 - Otay Crossings

4: Otay Mesa Road & La Media
Cum 2020 w/SR-905 [Phases 1A & 1B] - PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  					 	 	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Fr't			0.850		0.993			0.950			0.919	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4803	1583	1770	4782	0	1770	1703	0	3433	1667	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4803	1583	1770	4782	0	1770	1703	0	3433	1667	0
Satd. Flow (RTOR)			260		9			30			66	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	120	610	250	70	1200	60	170	60	30	120	160	190
Adj. Flow (vph)	125	635	260	73	1250	62	177	62	31	125	167	198
Lane Group Flow (vph)	125	635	260	73	1312	0	177	93	0	125	365	0
Turn Type	Prot		pm+ov	Prot			Prot			Prot		
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Total Split (s)	14.6	29.0	16.4	15.6	30.0	0.0	16.4	30.4	0.0	11.0	25.0	0.0
Act Effct Green (s)	10.0	32.1	47.9	9.0	31.4		11.8	24.0		6.9	19.1	
Actuated g/C Ratio	0.12	0.37	0.56	0.10	0.37		0.14	0.28		0.08	0.22	
v/c Ratio	0.61	0.35	0.26	0.39	0.75		0.73	0.19		0.45	0.86	
Control Delay	40.6	15.1	1.1	26.5	18.5		54.0	16.7		43.3	47.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	40.6	15.1	1.1	26.5	18.5		54.0	16.7		43.3	47.5	
LOS	D	B	A	C	B		D	B		D	D	
Approach Delay		14.7			18.9			41.2			46.4	
Approach LOS		B			B			D			D	

Intersection Summary

Cycle Length: 86

Actuated Cycle Length: 86

Offset: 49 (57%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 23.7









Intersection LOS: C

Intersection Capacity Utilization 74.0%

ICU Level of Service D






















Analysis Period (min) 15

Splits and Phases: 4: Otay Mesa Road & La Media

 ø1	 ø2	 ø3	 ø4
15.6 s	29 s	16.4 s	25 s
 ø6	 ø5	 ø7	 ø8
30 s	14.6 s	11 s	30.4 s

040501 - Otay Crossings

5: Otay Mesa Road & Piper Ranch Rd
Cum 2020 w/SR-905 [Phases 1A & 1B] - AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.91	0.91	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.969			0.985			0.898			0.945	0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3610	0	1770	5273	0	1770	1673	0	1770	1672	1504
Flt Permitted	0.950			0.950			0.734			0.737		
Satd. Flow (perm)	1770	3610	0	1770	5273	0	1367	1673	0	1373	1672	1504
Satd. Flow (RTOR)		43			24			21			12	30
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	250	700	180	100	540	60	30	10	20	20	20	40
Adj. Flow (vph)	260	729	188	104	562	62	31	10	21	21	21	42
Lane Group Flow (vph)	260	917	0	104	624	0	31	31	0	21	33	30
Turn Type	Prot			Prot			pm+pt			pm+pt		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases							8			4		4
Total Split (s)	23.0	25.0	0.0	20.5	22.5	0.0	8.0	20.5	0.0	8.0	20.5	20.5
Act Effct Green (s)	19.0	44.0		9.8	32.7		8.7	7.1		8.7	7.1	7.1
Actuated g/C Ratio	0.26	0.59		0.13	0.44		0.12	0.10		0.12	0.10	0.10
v/c Ratio	0.57	0.42		0.44	0.27		0.17	0.17		0.12	0.19	0.18
Control Delay	19.3	3.0		24.7	10.9		27.3	19.3		26.0	24.8	14.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	19.3	3.0		24.7	10.9		27.3	19.3		26.0	24.8	14.4
LOS	B	A		C	B		C	B		C	C	B
Approach Delay		6.6			12.9			23.3			21.4	
Approach LOS		A			B			C			C	

Intersection Summary

Cycle Length: 74

Actuated Cycle Length: 74

Offset: 52 (70%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 10.0









Intersection LOS: A

Intersection Capacity Utilization 47.7%

ICU Level of Service A






















Analysis Period (min) 15

Splits and Phases: 5: Otay Mesa Road & Piper Ranch Rd

 ø1	 ø2	 ø3	 ø4
20.5 s	25 s	8 s	20.5 s
 ø6	 ø5	 ø7	 ø8
22.5 s	23 s	8 s	20.5 s

040501 - Otay Crossings

5: Otay Mesa Road & Piper Ranch Rd
Cum 2020 w/SR-905 [Phases 1A & 1B] - PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.91	0.91	1.00	1.00	1.00	1.00	0.95	0.95
Frts		0.990			0.998			0.875			0.862	0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3688	0	1770	5342	0	1770	1630	0	1770	1525	1504
Flt Permitted	0.950			0.950			0.522			0.677		
Satd. Flow (perm)	1770	3688	0	1770	5342	0	972	1630	0	1261	1525	1504
Satd. Flow (RTOR)		8			3			104			114	115
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	40	860	60	30	1330	20	180	20	100	110	10	220
Adj. Flow (vph)	42	896	62	31	1385	21	188	21	104	115	10	229
Lane Group Flow (vph)	42	958	0	31	1406	0	188	125	0	115	124	115
Turn Type	Prot			Prot			pm+pt			pm+pt		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases							8			4		4
Total Split (s)	13.5	27.0	0.0	20.5	34.0	0.0	16.0	26.2	0.0	12.3	22.5	22.5
Act Effct Green (s)	8.3	52.5		6.9	46.8		22.7	13.2		15.7	7.8	7.8
Actuated g/C Ratio	0.10	0.61		0.08	0.54		0.26	0.15		0.18	0.09	0.09
v/c Ratio	0.25	0.43		0.22	0.48		0.52	0.37		0.41	0.51	0.48
Control Delay	24.2	3.5		36.5	5.0		30.5	13.0		28.8	16.7	14.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	24.2	3.5		36.5	5.0		30.5	13.0		28.8	16.7	14.2
LOS	C	A		D	A		C	B		C	B	B
Approach Delay		4.3			5.7			23.5			19.8	
Approach LOS		A			A			C			B	

Intersection Summary

Cycle Length: 86

Actuated Cycle Length: 86

Offset: 14 (16%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 8.7









Intersection Capacity Utilization 54.8%







Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service A

Splits and Phases: 5: Otay Mesa Road & Piper Ranch Rd

			
ø1	ø2	ø3	ø4
20.5 s	27 s	16 s	22.5 s
			
ø6	ø5	ø7	ø8
34 s	13.5 s	12.3 s	26.2 s

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↑↑	↑
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.97	1.00
Frnt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	0	5353	5353	0	3614	1667
Flt Permitted					0.950	
Satd. Flow (perm)	0	5353	5353	0	3614	1667
Satd. Flow (RTOR)						265
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	740	430	0	520	270
Adj. Flow (vph)	0	771	448	0	542	281
Lane Group Flow (vph)	0	771	448	0	542	281
Turn Type						Perm
Protected Phases		2	6		4	
Permitted Phases						4
Total Split (s)	0.0	34.5	34.5	0.0	39.5	39.5
Act Effct Green (s)		49.3	49.3		16.7	16.7
Actuated g/C Ratio		0.67	0.67		0.23	0.23
v/c Ratio		0.22	0.13		0.66	0.48
Control Delay		2.2	7.3		29.7	6.7
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		2.2	7.3		29.7	6.7
LOS		A	A		C	A
Approach Delay		2.2	7.3		21.9	
Approach LOS		A	A		C	

Intersection Summary

Cycle Length: 74

Actuated Cycle Length: 74

Offset: 8 (11%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 11.2




Intersection LOS: B







Intersection Capacity Utilization 34.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 6: Otay Mesa Road & SR125 SB

 ø2	 ø4
34.5 s	39.5 s
 ø6	
34.5 s	

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↑↑	↑
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.97	1.00
Fr _t						0.850
Flt Protected					0.950	
Satd. Flow (prot)	0	5353	5353	0	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	0	5353	5353	0	3433	1583
Satd. Flow (RTOR)						31
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	1070	1310	0	140	70
Adj. Flow (vph)	0	1115	1365	0	146	73
Lane Group Flow (vph)	0	1115	1365	0	146	73
Turn Type						Perm
Protected Phases		2	6		4	
Permitted Phases						4
Total Split (s)	0.0	48.5	48.5	0.0	37.5	37.5
Act Effct Green (s)		69.0	69.0		9.0	9.0
Actuated g/C Ratio		0.80	0.80		0.10	0.10
v/c Ratio		0.26	0.32		0.41	0.38
Control Delay		5.9	3.9		39.0	28.6
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		5.9	3.9		39.0	28.6
LOS		A	A		D	C
Approach Delay		5.9	3.9		35.5	
Approach LOS		A	A		D	

Intersection Summary

Cycle Length: 86

Actuated Cycle Length: 86

Offset: 62 (72%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.41

Intersection Signal Delay: 7.3




Intersection LOS: A















Intersection Capacity Utilization 45.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 6: Otay Mesa Road & SR125 SB

 ø2	 ø4
48.5 s	37.5 s
 ø6	
48.5 s	

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	 	 	 	 		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3704	3819	3819	3007	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3704	3819	3819	3007	0	0
Satd. Flow (RTOR)				125		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	30	1230	430	120	0	0
Adj. Flow (vph)	31	1281	448	125	0	0
Lane Group Flow (vph)	31	1281	448	125	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Total Split (s)	27.5	74.0	46.5	46.5	0.0	0.0
Act Effct Green (s)	15.9	74.0	58.6	58.6		
Actuated g/C Ratio	0.21	1.00	0.79	0.79		
v/c Ratio	0.04	0.34	0.15	0.05		
Control Delay	13.7	0.5	9.0	5.1		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	13.7	0.5	9.0	5.1		
LOS	B	A	A	A		
Approach Delay		0.8	8.1			
Approach LOS		A	A			

Intersection Summary

Cycle Length: 74

Actuated Cycle Length: 74

Offset: 62 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.34

Intersection Signal Delay: 3.0




Intersection LOS: A















Intersection Capacity Utilization 34.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

	ø2		
	74 s		
	ø6		ø5
	46.5 s		27.5 s

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	 	 	 	 		
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Fr _t				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3725	3725	2933	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3725	3725	2933	0	0
Satd. Flow (RTOR)				594		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	150	1060	1310	570	0	0
Adj. Flow (vph)	156	1104	1365	594	0	0
Lane Group Flow (vph)	156	1104	1365	594	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Total Split (s)	27.3	86.0	58.7	58.7	0.0	0.0
Act Effct Green (s)	23.4	86.0	54.6	54.6		
Actuated g/C Ratio	0.27	1.00	0.63	0.63		
v/c Ratio	0.17	0.30	0.58	0.29		
Control Delay	23.8	1.0	4.2	0.2		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	23.8	1.0	4.2	0.2		
LOS	C	A	A	A		
Approach Delay		3.9	3.0			
Approach LOS		A	A			

Intersection Summary

Cycle Length: 86

Actuated Cycle Length: 86

Offset: 16 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 3.3




Intersection LOS: A

Intersection Capacity Utilization 45.3%

ICU Level of Service A




















Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

	ø2		
86 s			
	ø6		ø5
58.7 s		27.3 s	

040501 - Otay Crossings

9: Otay Mesa Road & Harvest Rd
Cum 2020 w/SR-905 [Phases 1A & 1B] - AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.88
Frt		0.998			0.969			0.955				0.850
Flt Protected	0.950			0.950				0.984			0.960	
Satd. Flow (prot)	3433	3718	0	1770	3610	0	0	1750	0	0	1788	2933
Flt Permitted	0.950			0.950				0.926			0.778	
Satd. Flow (perm)	3433	3718	0	1770	3610	0	0	1647	0	0	1449	2933
Satd. Flow (RTOR)		2			48			10				260
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	350	870	10	10	340	90	10	10	10	50	10	250
Adj. Flow (vph)	365	906	10	10	354	94	10	10	10	52	10	260
Lane Group Flow (vph)	365	916	0	10	448	0	0	30	0	0	62	260
Turn Type	Prot			Prot			Perm			Perm		pm+ov
Protected Phases	5	2		1	6			8			4	5
Permitted Phases							8			4		4
Total Split (s)	25.6	37.4	0.0	16.5	28.3	0.0	20.1	20.1	0.0	20.1	20.1	25.6
Act Effct Green (s)	13.0	54.8		6.5	40.2			8.9			8.9	25.8
Actuated g/C Ratio	0.18	0.74		0.09	0.54			0.12			0.12	0.35
v/c Ratio	0.61	0.33		0.06	0.23			0.15			0.36	0.22
Control Delay	42.4	5.4		24.2	12.2			22.6			33.1	1.9
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	42.4	5.4		24.2	12.2			22.6			33.1	1.9
LOS	D	A		C	B			C			C	A
Approach Delay		16.0			12.4			22.6			7.9	
Approach LOS		B			B			C			A	

Intersection Summary

Cycle Length: 74

Actuated Cycle Length: 74

Offset: 20 (27%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 14.0







Intersection LOS: B

Intersection Capacity Utilization 44.8%

ICU Level of Service A


























Analysis Period (min) 15

Splits and Phases: 9: Otay Mesa Road & Harvest Rd

 ø2	 ø1	 ø4
37.4 s	16.5 s	20.1 s
 ø6	 ø5	 ø8
28.3 s	25.6 s	20.1 s

040501 - Otay Crossings

9: Otay Mesa Road & Harvest Rd
Cum 2020 w/SR-905 [Phases 1A & 1B] - PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 			 	 
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.88
Frt		0.990			0.973			0.955				0.850
Flt Protected	0.950			0.950				0.984			0.955	
Satd. Flow (prot)	3614	3688	0	1770	3444	0	0	1750	0	0	1779	2933
Flt Permitted	0.950			0.950				0.835			0.679	
Satd. Flow (perm)	3614	3688	0	1770	3444	0	0	1485	0	0	1265	2933
Satd. Flow (RTOR)		14			37			10				812
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	750	290	20	10	1030	230	10	10	10	180	10	960
Adj. Flow (vph)	781	302	21	10	1073	240	10	10	10	188	10	1000
Lane Group Flow (vph)	781	323	0	10	1313	0	0	30	0	0	198	1000
Turn Type	Prot			Prot			Perm			Prot		Perm
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases							8					4
Total Split (s)	24.5	54.0	0.0	8.5	38.0	0.0	11.5	11.5	0.0	12.0	23.5	23.5
Act Effct Green (s)	20.5	56.8		4.5	34.0			7.5			14.1	19.5
Actuated g/C Ratio	0.24	0.66		0.05	0.40			0.09			0.16	0.23
v/c Ratio	0.91	0.13		0.11	0.95			0.22			0.68	0.77
Control Delay	34.5	3.6		34.6	28.2			30.5			48.4	9.0
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	34.5	3.6		34.6	28.2			30.5			48.4	9.0
LOS	C	A		C	C			C			D	A
Approach Delay		25.4			28.3			30.5			15.5	
Approach LOS		C			C			C			B	

Intersection Summary

Cycle Length: 86

Actuated Cycle Length: 86

Offset: 32 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 23.3








Intersection LOS: C





















Intersection Capacity Utilization 83.3%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 9: Otay Mesa Road & Harvest Rd

 ø1	 ø2	 ø4
8.5 s	54 s	23.5 s
 ø6	 ø5	 ø7
38 s	24.5 s	12 s
		 ø8
		11.5 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Fr _t		0.965			0.995			0.953			0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3595	0	1770	1951	0	1681	1686	0	1770	1833	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3595	0	1770	1951	0	1681	1686	0	1770	1833	0
Satd. Flow (RTOR)		51			2			29			8	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	20	700	210	80	280	10	150	130	60	10	80	10
Adj. Flow (vph)	21	729	219	83	292	10	156	135	62	10	83	10
Lane Group Flow (vph)	21	948	0	83	302	0	156	197	0	10	93	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Total Split (s)	8.5	23.0	0.0	10.0	24.5	0.0	20.5	20.5	0.0	20.5	20.5	0.0
Act Effct Green (s)	6.5	33.8		6.0	37.4		13.1	13.1		9.1	9.1	
Actuated g/C Ratio	0.09	0.46		0.08	0.51		0.18	0.18		0.12	0.12	
v/c Ratio	0.13	0.57		0.58	0.31		0.52	0.61		0.05	0.40	
Control Delay	52.6	11.3		44.9	13.6		33.1	31.3		27.4	31.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	52.6	11.3		44.9	13.6		33.1	31.3		27.4	31.7	
LOS	D	B		D	B		C	C		C	C	
Approach Delay		12.2			20.3			32.1			31.3	
Approach LOS		B			C			C			C	

Intersection Summary

Cycle Length: 74

Actuated Cycle Length: 74

Offset: 32 (43%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 18.9







Intersection LOS: B

Intersection Capacity Utilization 55.3%

ICU Level of Service B





















Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sunroad Blvd

			
ø2	ø1	ø4	ø8
23 s	10 s	20.5 s	20.5 s
			
ø5	ø6		
8.5 s	24.5 s		

040501 - Otay Crossings

10: Otay Mesa Road & Sunroad Blvd
Cum 2020 w/SR-905 [Phases 1A & 1B] - PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt		0.965			0.998			0.942			0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1863	3595	0	1770	1859	0	1681	1667	0	1770	1827	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1863	3595	0	1770	1859	0	1681	1667	0	1770	1827	0
Satd. Flow (RTOR)		70			1			32			6	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	10	360	110	40	1000	10	250	160	100	10	140	20
Adj. Flow (vph)	11	379	116	42	1053	11	263	168	105	11	147	21
Lane Group Flow (vph)	11	495	0	42	1064	0	263	273	0	11	168	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Total Split (s)	8.5	49.0	0.0	8.5	49.0	0.0	20.0	20.0	0.0	8.5	8.5	0.0
Act Effct Green (s)	4.5	42.1		4.8	45.5		15.5	15.5		11.3	11.3	
Actuated g/C Ratio	0.05	0.49		0.06	0.53		0.18	0.18		0.13	0.13	
v/c Ratio	0.11	0.28		0.42	1.08		0.87	0.83		0.05	0.69	
Control Delay	33.1	6.6		52.4	71.7		62.5	52.9		36.1	53.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	33.1	6.6		52.4	71.7		62.5	52.9		36.1	53.5	
LOS	C	A		D	E		E	D		D	D	
Approach Delay		7.2			70.9			57.6			52.4	
Approach LOS		A			E			E			D	

Intersection Summary

Cycle Length: 86

Actuated Cycle Length: 86

Offset: 77 (90%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.08

Intersection Signal Delay: 52.6







Intersection LOS: D

Intersection Capacity Utilization 86.0%

ICU Level of Service E











Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sunroad Blvd

			
ø1	ø2	ø4	ø8
8.5 s	49 s	8.5 s	20 s
			
ø6	ø5		
49 s	8.5 s		











040501 - Otay Crossings

11: Otay Mesa Road & Vann Centre Blvd
Cum 2020 w/SR-905 [Phases 1A & 1B] - AM





















						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	40	730	350	50	20	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	43	793	380	54	22	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	435				1288	408
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	435				1288	408
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				88	97
cM capacity (veh/h)	1125				174	644
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	43	793	435	43		
Volume Left	43	0	0	22		
Volume Right	0	0	54	22		
cSH	1125	1700	1700	274		
Volume to Capacity	0.04	0.47	0.26	0.16		
Queue Length 95th (ft)	3	0	0	14		
Control Delay (s)	8.3	0.0	0.0	20.6		
Lane LOS	A			C		
Approach Delay (s)	0.4		0.0	20.6		
Approach LOS				C		
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			48.4%		ICU Level of Service	A
Analysis Period (min)			15			

040501 - Otay Crossings

11: Otay Mesa Road & Vann Centre Blvd
Cum 2020 w/SR-905 [Phases 1A & 1B] - PM

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	20	450	1010	30	50	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	489	1098	33	54	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1130				1647	1114
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1130				1647	1114
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				48	83
cM capacity (veh/h)	618				105	253
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	22	489	1130	98		
Volume Left	22	0	0	54		
Volume Right	0	0	33	43		
cSH	618	1700	1700	142		
Volume to Capacity	0.04	0.29	0.66	0.69		
Queue Length 95th (ft)	3	0	0	97		
Control Delay (s)	11.0	0.0	0.0	73.0		
Lane LOS	B			F		
Approach Delay (s)	0.5		0.0	73.0		
Approach LOS				F		
Intersection Summary						
Average Delay			4.2			
Intersection Capacity Utilization			66.9%		ICU Level of Service	C
Analysis Period (min)			15			

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.995			0.893			0.925	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1850	0	1770	1853	0	1770	1663	0	1770	1723	0
Flt Permitted	0.950			0.950			0.728			0.307		
Satd. Flow (perm)	1770	1850	0	1770	1853	0	1356	1663	0	572	1723	0
Satd. Flow (RTOR)		4			3			156			22	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	60	660	30	320	310	10	90	80	200	10	20	20
Adj. Flow (vph)	65	717	33	348	337	11	98	87	217	11	22	22
Lane Group Flow (vph)	65	750	0	348	348	0	98	304	0	11	44	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Total Split (s)	11.0	32.5	0.0	21.0	42.5	0.0	20.5	20.5	0.0	20.5	20.5	0.0
Act Effct Green (s)	6.8	31.9		17.9	47.2		12.2	12.2		12.2	12.2	
Actuated g/C Ratio	0.09	0.43		0.24	0.64		0.16	0.16		0.16	0.16	
v/c Ratio	0.40	0.94		0.81	0.29		0.44	0.75		0.12	0.15	
Control Delay	21.6	31.6		44.0	8.8		32.7	25.8		26.8	16.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	21.6	31.6		44.0	8.8		32.7	25.8		26.8	16.1	
LOS	C	C		D	A		C	C		C	B	
Approach Delay		30.8			26.4			27.5			18.2	
Approach LOS		C			C			C			B	

Intersection Summary

Cycle Length: 74

Actuated Cycle Length: 74

Offset: 2 (3%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 28.2







Intersection LOS: C

Intersection Capacity Utilization 80.8%





















ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

 ø1	 ø2	 ø4
21 s	32.5 s	20.5 s
 ø6	 ø5	 ø8
42.5 s	11 s	20.5 s

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frts		0.997			0.998			0.863			0.943	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1857	0	1770	1859	0	1770	1608	0	1770	1757	0
Flt Permitted	0.950			0.950			0.619			0.190		
Satd. Flow (perm)	1770	1857	0	1770	1859	0	1153	1608	0	354	1757	0
Satd. Flow (RTOR)		2			1			435			34	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	30	480	10	220	810	10	170	40	400	10	80	50
Adj. Flow (vph)	33	522	11	239	880	11	185	43	435	11	87	54
Lane Group Flow (vph)	33	533	0	239	891	0	185	478	0	11	141	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Total Split (s)	9.0	41.0	0.0	20.0	52.0	0.0	25.0	25.0	0.0	25.0	25.0	0.0
Act Effct Green (s)	5.0	41.1		15.0	54.7		17.9	17.9		17.9	17.9	
Actuated g/C Ratio	0.06	0.48		0.17	0.64		0.21	0.21		0.21	0.21	
v/c Ratio	0.32	0.60		0.77	0.75		0.77	0.70		0.15	0.36	
Control Delay	39.0	14.5		51.5	18.8		53.1	10.7		31.2	23.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	39.0	14.5		51.5	18.8		53.1	10.7		31.2	23.5	
LOS	D	B		D	B		D	B		C	C	
Approach Delay		15.9			25.7			22.5			24.1	
Approach LOS		B			C			C			C	

Intersection Summary

Cycle Length: 86

Actuated Cycle Length: 86

Offset: 54 (63%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 22.6







Intersection LOS: C

Intersection Capacity Utilization 90.1%

ICU Level of Service E

















Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Rd

 ø1	 ø2	 ø4
20 s	41 s	25 s
 ø6	 ø5	 ø8
52 s	9 s	25 s

















040501 - Otay Crossings

14: Otay Mesa Road & Alta Rd.
Cum 2020 w/SR-905 [Phases 1A & 1B] - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	600	80	110	30	90	30	80	30	30	30	30	410
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	632	84	116	32	95	32	84	32	32	32	32	432
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	832	158	147	495								
Volume Left (vph)	632	32	84	32								
Volume Right (vph)	116	32	32	432								
Hadj (s)	0.10	-0.05	0.02	-0.48								
Departure Headway (s)	6.6	7.4	7.6	6.2								
Degree Utilization, x	1.52	0.32	0.31	0.85								
Capacity (veh/h)	547	441	434	572								
Control Delay (s)	261.3	13.9	13.9	34.8								
Approach Delay (s)	261.3	13.9	13.9	34.8								
Approach LOS	F	B	B	D								
Intersection Summary												
Delay			146.3									
HCM Level of Service			F									
Intersection Capacity Utilization			93.9%		ICU Level of Service					F		
Analysis Period (min)			15									


















040501 - Otay Crossings

14: Otay Mesa Road & Alta Rd
Cum 2020 w/SR-905 [Phases 1A & 1B] - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	520	50	90	30	110	30	190	30	30	30	30	720
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	547	53	95	32	116	32	200	32	32	32	32	758
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	695	179	263	821								
Volume Left (vph)	547	32	200	32								
Volume Right (vph)	95	32	32	758								
Hadj (s)	0.11	-0.04	0.11	-0.51								
Departure Headway (s)	7.5	8.5	8.2	6.8								
Degree Utilization, x	1.44	0.42	0.60	1.56								
Capacity (veh/h)	496	401	425	534								
Control Delay (s)	230.0	17.5	22.6	279.3								
Approach Delay (s)	230.0	17.5	22.6	279.3								
Approach LOS	F	C	C	F								
Intersection Summary												
Delay			203.4									
HCM Level of Service			F									
Intersection Capacity Utilization			121.2%		ICU Level of Service					H		
Analysis Period (min)			15									


















040501 - Otay Crossings

17: Airway Rd & La Media
Cum 2020 w/SR-905 [Phases 1A & 1B] - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	30	70	70	30	150	60	60	80	30	160	200	70
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	33	78	78	33	167	67	67	89	33	178	222	78
Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2							
Volume Total (vph)	189	267	189	178	300							
Volume Left (vph)	33	33	67	178	0							
Volume Right (vph)	78	67	33	0	78							
Hadj (s)	-0.18	-0.09	0.05	0.53	-0.07							
Departure Headway (s)	6.1	6.0	6.3	6.8	6.2							
Degree Utilization, x	0.32	0.45	0.33	0.34	0.51							
Capacity (veh/h)	528	551	513	505	558							
Control Delay (s)	12.0	13.8	12.4	12.0	14.3							
Approach Delay (s)	12.0	13.8	12.4	13.5								
Approach LOS	B	B	B	B								
Intersection Summary												
Delay			13.1									
HCM Level of Service			B									
Intersection Capacity Utilization			50.3%			ICU Level of Service				A		
Analysis Period (min)			15									




















040501 - Otay Crossings

17: Airway Rd & La Media
Cum 2020 w/SR-905 [Phases 1A & 1B] - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	80	30	90	30	310	140	80	140	30	70	130	30
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Hourly flow rate (vph)	81	30	91	30	313	141	81	141	30	71	131	30
Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2							
Volume Total (vph)	202	485	253	71	162							
Volume Left (vph)	81	30	81	71	0							
Volume Right (vph)	91	141	30	0	30							
Hadj (s)	-0.16	-0.13	0.08	0.53	-0.01							
Departure Headway (s)	6.4	5.9	6.8	7.8	7.2							
Degree Utilization, x	0.36	0.79	0.48	0.15	0.32							
Capacity (veh/h)	487	485	478	415	441							
Control Delay (s)	13.0	27.1	15.9	11.0	12.4							
Approach Delay (s)	13.0	27.1	15.9	12.0								
Approach LOS	B	D	C	B								
Intersection Summary												
Delay			19.3									
HCM Level of Service			C									
Intersection Capacity Utilization			71.8%			ICU Level of Service				C		
Analysis Period (min)			15									




















040501 - Otay Crossings

19: Airway Rd & Sanyo Ave
Cum 2020 w/SR-905 [Phases 1A & 1B] - AM




















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	50	100	80	10	200	510	30	60	70	250	450	40
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	54	108	86	11	215	548	32	65	75	269	484	43
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2					
Volume Total (vph)	247	226	548	32	140	753	43					
Volume Left (vph)	54	11	0	32	0	269	0					
Volume Right (vph)	86	0	548	0	75	0	43					
Hadj (s)	-0.13	0.06	-0.67	0.53	-0.34	0.21	-0.67					
Departure Headway (s)	8.3	7.7	7.0	9.3	8.4	8.0	7.1					
Degree Utilization, x	0.57	0.48	1.06	0.08	0.33	1.67	0.09					
Capacity (veh/h)	422	461	523	375	415	459	496					
Control Delay (s)	21.5	16.5	83.0	11.9	14.2	330.2	9.6					
Approach Delay (s)	21.5	63.6		13.8		312.8						
Approach LOS	C	F		B		F						
Intersection Summary												
Delay			153.8									
HCM Level of Service			F									
Intersection Capacity Utilization			82.3%		ICU Level of Service				E			
Analysis Period (min)			15									

040501 - Otay Crossings




















19: Airway Rd & Sanyo Ave
Cum 2020 w/SR-905 [Phases 1A & 1B] - PM







												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	20	90	50	10	230	570	70	450	60	230	90	120
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	23	103	57	11	264	655	80	517	69	264	103	138
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2					
Volume Total (vph)	184	276	655	80	586	368	138					
Volume Left (vph)	23	11	0	80	0	264	0					
Volume Right (vph)	57	0	655	0	69	0	138					
Hadj (s)	-0.13	0.05	-0.67	0.53	-0.05	0.39	-0.67					
Departure Headway (s)	9.5	8.5	7.8	9.2	8.6	9.1	8.0					
Degree Utilization, x	0.49	0.65	1.43	0.20	1.40	0.93	0.31					
Capacity (veh/h)	362	416	471	386	429	389	442					
Control Delay (s)	21.2	25.2	224.7	13.3	215.6	58.3	13.4					
Approach Delay (s)	21.2	165.5		191.2		46.0						
Approach LOS	C	F		F		E						
Intersection Summary												
Delay			135.0									
HCM Level of Service			F									
Intersection Capacity Utilization			81.5%		ICU Level of Service				D			
Analysis Period (min)			15									







040501 - Otay Crossings

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	60	150	190	10	230	10	570	60	200	10	70	60
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	67	167	211	11	256	11	633	67	222	11	78	67
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	267			378			661	694	189	756	794	133
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	267			378			661	694	189	756	794	133
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			99			0	81	73	94	74	93
cM capacity (veh/h)	1294			1177			246	342	821	176	300	891
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1			
Volume Total	67	111	267	11	170	96	700	222	156			
Volume Left	67	0	0	11	0	0	633	0	11			
Volume Right	0	0	211	0	0	11	0	222	67			
cSH	1294	1700	1700	1177	1700	1700	253	821	391			
Volume to Capacity	0.05	0.07	0.16	0.01	0.10	0.06	2.77	0.27	0.40			
Queue Length 95th (ft)	4	0	0	1	0	0	1507	27	47			
Control Delay (s)	7.9	0.0	0.0	8.1	0.0	0.0	837.4	11.0	20.1			
Lane LOS	A			A			F	B	C			
Approach Delay (s)	1.2			0.3			638.3		20.1			
Approach LOS							F		C			
Intersection Summary												
Average Delay			329.1									
Intersection Capacity Utilization			69.6%				ICU Level of Service			C		
Analysis Period (min)			15									

040501 - Otay Crossings























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	70	80	240	50	300	20	580	70	220	10	70	60
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	80	92	276	57	345	23	667	80	253	11	80	69
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	368			368			787	874	184	971	1000	184
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	368			368			787	874	184	971	1000	184
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	93			95			0	68	69	88	62	92
cM capacity (veh/h)	1187			1187			168	254	827	100	214	827
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1			
Volume Total	80	61	307	57	230	138	747	253	161			
Volume Left	80	0	0	57	0	0	667	0	11			
Volume Right	0	0	276	0	0	23	0	253	69			
cSH	1187	1700	1700	1187	1700	1700	175	827	280			
Volume to Capacity	0.07	0.04	0.18	0.05	0.14	0.08	4.28	0.31	0.57			
Queue Length 95th (ft)	5	0	0	4	0	0	Err	32	83			
Control Delay (s)	8.3	0.0	0.0	8.2	0.0	0.0	Err	11.3	33.8			
Lane LOS	A			A			F	B	D			
Approach Delay (s)	1.5			1.1			7473.4		33.8			
Approach LOS							F		D			
Intersection Summary												
Average Delay			3676.6									
Intersection Capacity Utilization			70.3%				ICU Level of Service		C			
Analysis Period (min)			15									

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑	↵	↵
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	260	70	10	200	50	30
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	333	90	13	256	64	38
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			423		660	212
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			423		660	212
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		84	95
cM capacity (veh/h)			1133		391	794
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	222	201	13	256	64	38
Volume Left	0	0	13	0	64	0
Volume Right	0	90	0	0	0	38
cSH	1700	1700	1133	1700	391	794
Volume to Capacity	0.13	0.12	0.01	0.15	0.16	0.05
Queue Length 95th (ft)	0	0	1	0	14	4
Control Delay (s)	0.0	0.0	8.2	0.0	16.0	9.8
Lane LOS			A		C	A
Approach Delay (s)	0.0		0.4		13.7	
Approach LOS					B	
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			20.5%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑	↵	↵
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	230	70	10	230	110	10
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	274	83	12	274	131	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)				1314		
pX, platoon unblocked						
vC, conflicting volume			357		613	179
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			357		613	179
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		69	99
cM capacity (veh/h)			1198		420	834
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	183	175	12	274	131	12
Volume Left	0	0	12	0	131	0
Volume Right	0	83	0	0	0	12
cSH	1700	1700	1198	1700	420	834
Volume to Capacity	0.11	0.10	0.01	0.16	0.31	0.01
Queue Length 95th (ft)	0	0	1	0	33	1
Control Delay (s)	0.0	0.0	8.0	0.0	17.4	9.4
Lane LOS			A		C	A
Approach Delay (s)	0.0		0.3		16.7	
Approach LOS					C	
Intersection Summary						
Average Delay			3.2			
Intersection Capacity Utilization			24.9%		ICU Level of Service	A
Analysis Period (min)			15			

040501 - Otay Crossings

23: Airway Rd & Enrico Fermi Dr
Cum 2020 w/SR-905 [Phases 1A & 1B] - AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.896			0.969	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1770	1504	1770	1863	1583	1770	3171	0	1770	3430	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1770	1504	1770	1863	1583	1770	3171	0	1770	3430	0
Satd. Flow (RTOR)			62			152		337			47	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	170	70	50	60	30	140	110	120	310	110	270	70
Adj. Flow (vph)	212	76	62	65	33	152	138	150	337	120	338	88
Lane Group Flow (vph)	212	76	62	65	33	152	138	487	0	120	426	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Total Split (s)	14.0	24.5	24.5	10.0	20.5	20.5	11.0	20.5	0.0	11.0	20.5	0.0
Act Effct Green (s)	9.8	26.3	26.3	5.9	18.4	18.4	9.0	16.9		6.8	12.8	
Actuated g/C Ratio	0.15	0.40	0.40	0.09	0.28	0.28	0.14	0.26		0.10	0.19	
v/c Ratio	0.81	0.11	0.10	0.41	0.06	0.28	0.57	0.46		0.66	0.61	
Control Delay	52.3	16.3	5.7	36.6	19.3	5.6	25.1	3.0		47.7	25.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	52.3	16.3	5.7	36.6	19.3	5.6	25.1	3.0		47.7	25.0	
LOS	D	B	A	D	B	A	C	A		D	C	
Approach Delay		36.2			15.5			7.8			30.0	
Approach LOS		D			B			A			C	

Intersection Summary

Cycle Length: 66

Actuated Cycle Length: 66

Offset: 25 (38%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 21.4









Intersection LOS: C

























Intersection Capacity Utilization 45.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 23: Airway Rd & Enrico Fermi Dr

			
ø2	ø1	ø4	ø3
24.5 s	10 s	20.5 s	11 s
			
ø6	ø5	ø7	ø8
20.5 s	14 s	11 s	20.5 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.977			0.974	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1770	1504	1770	1863	1583	1770	3458	0	1770	3447	0
Flt Permitted	0.950			0.950			0.397			0.376		
Satd. Flow (perm)	1770	1770	1504	1770	1863	1583	740	3458	0	700	3447	0
Satd. Flow (RTOR)			33			163		22			25	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	180	30	30	60	60	150	130	390	70	60	240	50
Adj. Flow (vph)	196	33	33	65	65	163	141	424	76	65	261	54
Lane Group Flow (vph)	196	33	33	65	65	163	141	500	0	65	315	0
Turn Type	Prot		Perm	Prot		Perm	pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6	8			4		
Total Split (s)	25.1	34.0	34.0	15.9	24.8	24.8	16.6	27.1	0.0	13.0	23.5	0.0
Act Effct Green (s)	17.1	40.4	40.4	9.0	30.3	30.3	27.4	20.6		26.2	18.2	
Actuated g/C Ratio	0.19	0.45	0.45	0.10	0.34	0.34	0.30	0.23		0.29	0.20	
v/c Ratio	0.58	0.04	0.05	0.37	0.10	0.25	0.44	0.62		0.22	0.44	
Control Delay	39.7	18.3	7.2	42.9	25.2	5.7	16.8	21.8		20.5	30.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	39.7	18.3	7.2	42.9	25.2	5.7	16.8	21.8		20.5	30.0	
LOS	D	B	A	D	C	A	B	C		C	C	
Approach Delay		32.9			18.3			20.7			28.4	
Approach LOS		C			B			C			C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 77 (86%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 24.1









Intersection LOS: C

Intersection Capacity Utilization 43.0%

















ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 23: Airway Rd & Enrico Fermi Rd

















 ø2	 ø1	 ø3	 ø4
34 s	15.9 s	16.6 s	23.5 s
 ø6	 ø5	 ø7	 ø8
24.8 s	25.1 s	13 s	27.1 s

040501 - Otay Crossings

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	30	190	30	30	230	110	30	30	30	240	30	30
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	34	218	34	34	264	126	34	34	34	276	34	34
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	287	425	103	345								
Volume Left (vph)	34	34	34	276								
Volume Right (vph)	34	126	34	34								
Hadj (s)	-0.01	-0.13	-0.07	0.14								
Departure Headway (s)	6.3	5.9	7.0	6.5								
Degree Utilization, x	0.50	0.70	0.20	0.62								
Capacity (veh/h)	518	573	414	521								
Control Delay (s)	15.5	21.5	11.7	19.4								
Approach Delay (s)	15.5	21.5	11.7	19.4								
Approach LOS	C	C	B	C								
Intersection Summary												
Delay			18.5									
HCM Level of Service			C									
Intersection Capacity Utilization			54.8%		ICU Level of Service					A		
Analysis Period (min)			15									

040501 - Otay Crossings

27: Siempre Viva Road & La Media
Cum 2020 w/SR-905 [Phases 1A & 1B] - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	30	460	30	30	610	140	30	80	30	120	100	30
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	37	568	37	37	753	173	37	99	37	148	123	37
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	642	963	173	309								
Volume Left (vph)	37	37	37	148								
Volume Right (vph)	37	173	37	37								
Hadj (s)	0.01	-0.07	0.01	0.10								
Departure Headway (s)	7.4	7.3	8.8	8.2								
Degree Utilization, x	1.31	1.95	0.42	0.70								
Capacity (veh/h)	490	500	386	432								
Control Delay (s)	177.9	452.8	18.1	28.1								
Approach Delay (s)	177.9	452.8	18.1	28.1								
Approach LOS	F	F	C	D								
Intersection Summary												
Delay			269.4									
HCM Level of Service			F									
Intersection Capacity Utilization			77.0%		ICU Level of Service					D		
Analysis Period (min)			15									

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↖↖	↑↑↑		↗↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	0.91	0.97	0.91	1.00	0.88
Frt	0.985					0.850
Flt Protected			0.950			
Satd. Flow (prot)	5273	0	3614	5353	0	2933
Flt Permitted			0.950			
Satd. Flow (perm)	5273	0	3614	5353	0	2933
Satd. Flow (RTOR)	33					75
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	910	100	480	880	0	700
Adj. Flow (vph)	948	104	500	917	0	729
Lane Group Flow (vph)	1052	0	500	917	0	729
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Total Split (s)	30.0	0.0	36.0	66.0	0.0	36.0
Act Effect Green (s)	26.0		32.0	66.0		32.0
Actuated g/C Ratio	0.39		0.48	1.00		0.48
v/c Ratio	0.50		0.29	0.17		0.50
Control Delay	15.6		9.7	0.1		11.7
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	15.6		9.7	0.1		11.7
LOS	B		A	A		B
Approach Delay	15.6			3.5		
Approach LOS	B			A		

Intersection Summary

Cycle Length: 66

Actuated Cycle Length: 66

Offset: 28 (42%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.50

Intersection Signal Delay: 9.3

Intersection LOS: A

Intersection Capacity Utilization 48.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 28: Siempre Viva Rd & SR905 SB Off to Siempre Viva EB

→ ø2	↖ ø1
30 s	36 s
← ø6	
66 s	

28: Siempre Viva Road & SR905 SB Off Ramp to Siempre Viva EB

040501 - Otay Crossings

Cum 2020 w/SR-905 [Phases 1A & 1B] - PM

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↘↙	↑↑↑		↗↖
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	0.91	0.97	0.91	1.00	0.88
Fr _t	0.936					0.850
Flt Protected			0.950			
Satd. Flow (prot)	4760	0	3523	5085	0	2787
Flt Permitted			0.950			
Satd. Flow (perm)	4760	0	3523	5085	0	2787
Satd. Flow (RTOR)	243					847
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	950	700	800	310	0	440
Adj. Flow (vph)	990	729	833	323	0	458
Lane Group Flow (vph)	1719	0	833	323	0	458
Turn Type			Prot			custom
Protected Phases	2		1	6		
Permitted Phases						8
Total Split (s)	39.5	0.0	30.0	69.5	0.0	20.5
Act Effct Green (s)	45.8		26.0	75.8		6.2
Actuated g/C Ratio	0.51		0.29	0.84		0.07
v/c Ratio	0.68		0.82	0.08		0.47
Control Delay	15.6		32.6	1.0		1.6
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	15.6		32.6	1.0		1.6
LOS	B		C	A		A
Approach Delay	15.6			23.8		
Approach LOS	B			C		

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 66 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 16.5

Intersection LOS: B







Intersection Capacity Utilization 63.0%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 28: Siempre Viva Road & SR905 SB Off Ramp to Siempre Viva EB







→ ø2	↖ ø1	
39.5 s	30 s	
← ø6		↗ ø8
69.5 s		20.5 s

							
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		↑↑↑↑	↑↑↑↑			↑↗	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Volume (veh/h)	0	1610	880	0	0	480	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	
Hourly flow rate (vph)	0	1851	1011	0	0	552	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type					None		
Median storage veh)							
Upstream signal (ft)		281	733				
pX, platoon unblocked					0.87		
vC, conflicting volume	1011				1628	337	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	1011				1414	337	
tC, single (s)	4.1				6.8	6.9	
tC, 2 stage (s)							
tF (s)	2.2				3.5	3.3	
p0 queue free %	100				100	16	
cM capacity (veh/h)	681				111	659	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	617	617	617	337	337	337	552
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	552
cSH	1700	1700	1700	1700	1700	1700	659
Volume to Capacity	0.36	0.36	0.36	0.20	0.20	0.20	0.84
Queue Length 95th (ft)	0	0	0	0	0	0	229
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	32.2
Lane LOS							D
Approach Delay (s)	0.0			0.0			32.2
Approach LOS							D
Intersection Summary							
Average Delay			5.2				
Intersection Capacity Utilization			53.4%		ICU Level of Service		A
Analysis Period (min)			15				



















29: Siempre Viva Road & SR905 SB Off Ramp to Siempre Viva WB

040501 - Otay Crossings

Cum 2020 w/SR-905 [Phases 1A & 1B] - PM

							
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		↑↑↑↑	↑↑↑↑			↑	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Volume (veh/h)	0	1390	610	0	0	500	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	
Hourly flow rate (vph)	0	1495	656	0	0	538	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type					None		
Median storage (veh)							
Upstream signal (ft)		225	412				
pX, platoon unblocked							
vC, conflicting volume	656				1154	219	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	656				1154	219	
tC, single (s)	4.1				6.8	6.9	
tC, 2 stage (s)							
tF (s)	2.2				3.5	3.3	
p0 queue free %	100				100	32	
cM capacity (veh/h)	927				190	786	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	498	498	498	219	219	219	538
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	538
cSH	1700	1700	1700	1700	1700	1700	786
Volume to Capacity	0.29	0.29	0.29	0.13	0.13	0.13	0.68
Queue Length 95th (ft)	0	0	0	0	0	0	138
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	18.9
Lane LOS							C
Approach Delay (s)	0.0			0.0			18.9
Approach LOS							C
Intersection Summary							
Average Delay			3.8				
Intersection Capacity Utilization			67.6%		ICU Level of Service		C
Analysis Period (min)			15				

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	1.00	1.00	0.88	1.00	1.00	1.00
Frst					0.964	0.850			0.850			
Flt Protected	0.950							0.954				
Satd. Flow (prot)	3704	5487	0	0	4999	1469	0	1917	3007	0	0	0
Flt Permitted	0.950							0.954				
Satd. Flow (perm)	3704	5487	0	0	4999	1469	0	1917	3007	0	0	0
Satd. Flow (RTOR)					123	284			46			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	250	1360	0	0	520	440	360	10	530	0	0	0
Adj. Flow (vph)	260	1417	0	0	542	458	375	10	552	0	0	0
Lane Group Flow (vph)	260	1417	0	0	716	284	0	385	552	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Total Split (s)	15.0	37.9	0.0	0.0	22.9	22.9	28.1	28.1	28.1	0.0	0.0	0.0
Act Effct Green (s)	9.6	38.9			25.3	25.3		19.1	19.1			
Actuated g/C Ratio	0.15	0.59			0.38	0.38		0.29	0.29			
v/c Ratio	0.48	0.44			0.36	0.38		0.69	0.61			
Control Delay	26.5	7.5			12.1	7.4		27.1	20.8			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	26.5	7.5			12.1	7.4		27.1	20.8			
LOS	C	A			B	A		C	C			
Approach Delay		10.4			10.8			23.4				
Approach LOS		B			B			C				

Intersection Summary

Cycle Length: 66

Actuated Cycle Length: 66

Offset: 42 (64%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 13.9





Intersection LOS: B

Intersection Capacity Utilization 53.4%



















ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 30: Siempre Viva Rd & SR 905 NB On Ramp

	ø2		ø8
37.9 s		28.1 s	
	ø6		ø5
22.9 s		15 s	

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	1.00	1.00	0.88	1.00	1.00	1.00
Frt					0.932	0.850			0.850			
Flt Protected	0.950							0.956				
Satd. Flow (prot)	3433	5085	0	0	4479	1362	0	1781	2787	0	0	0
Flt Permitted	0.950							0.956				
Satd. Flow (perm)	3433	5085	0	0	4479	1362	0	1781	2787	0	0	0
Satd. Flow (RTOR)					260	432			412			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	600	790	0	0	500	820	110	10	440	0	0	0
Adj. Flow (vph)	632	832	0	0	526	863	116	11	463	0	0	0
Lane Group Flow (vph)	632	832	0	0	957	432	0	127	463	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Total Split (s)	30.3	67.5	0.0	0.0	37.2	37.2	22.5	22.5	22.5	0.0	0.0	0.0
Act Effct Green (s)	22.0	69.5			43.5	43.5		12.5	12.5			
Actuated g/C Ratio	0.24	0.77			0.48	0.48		0.14	0.14			
v/c Ratio	0.75	0.21			0.42	0.49		0.51	0.62			
Control Delay	45.8	2.4			9.3	1.9		42.4	9.5			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	45.8	2.4			9.3	1.9		42.4	9.5			
LOS	D	A			A	A		D	A			
Approach Delay		21.1			7.0			16.6				
Approach LOS		C			A			B				

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 83 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 14.7





Intersection LOS: B

Intersection Capacity Utilization 67.6%
























ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 30: Siempre Viva Road & SR905 NB On Ramp

 ø2	 ø8
67.5 s	22.5 s
 ø5	 ø6
30.3 s	37.2 s

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.954				0.850		0.880	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1863	5487	1583	1770	3643	0	1770	3539	1583	1770	3115	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1863	5487	1583	1770	3643	0	1770	3539	1583	1770	3115	0
Satd. Flow (RTOR)			143		51				66		264	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	800	790	130	30	540	240	180	200	60	100	60	240
Adj. Flow (vph)	879	868	143	33	593	264	198	220	66	110	66	264
Lane Group Flow (vph)	879	868	143	33	857	0	198	220	66	110	330	0
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Total Split (s)	62.5	89.0	89.0	9.0	35.5	0.0	23.9	17.0	17.0	17.0	10.1	0.0
Act Effct Green (s)	58.5	89.9	89.9	5.0	32.8		18.3	12.3	12.3	12.4	6.4	
Actuated g/C Ratio	0.44	0.68	0.68	0.04	0.25		0.14	0.09	0.09	0.09	0.05	
v/c Ratio	1.06	0.23	0.13	0.49	0.91		0.81	0.66	0.32	0.67	0.82	
Control Delay	79.4	7.3	1.3	77.1	53.4		79.3	68.0	16.7	77.1	31.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	79.4	7.3	1.3	77.1	53.4		79.3	68.0	16.7	77.1	31.0	
LOS	E	A	A	E	D		E	E	B	E	C	
Approach Delay		40.4			54.3			65.6			42.5	
Approach LOS		D			D			E			D	

Intersection Summary

Cycle Length: 132

Actuated Cycle Length: 132

Offset: 59 (45%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.06

Intersection Signal Delay: 47.3









Intersection LOS: D
























Intersection Capacity Utilization 95.8%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 32: Siempre Viva Rd & Paseo De Las Americas

 ø2	 ø1	 ø3	
89 s	9 s	23.9 s	10.1 s
 ø6	 ø5	 ø8	 ø7
35.5 s	62.5 s	17 s	17 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frts			0.850		0.950				0.850		0.878	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3362	0	1770	3539	1583	1770	3107	0
Flt Permitted	0.950			0.950			0.471			0.950		
Satd. Flow (perm)	1770	5085	1583	1770	3362	0	877	3539	1583	1770	3107	0
Satd. Flow (RTOR)			74		95				42		368	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	620	490	70	40	640	320	330	310	40	80	80	350
Adj. Flow (vph)	653	516	74	42	674	337	347	326	42	84	84	368
Lane Group Flow (vph)	653	516	74	42	1011	0	347	326	42	84	452	0
Turn Type	Prot		Perm	Prot			pm+pt		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2				8		8			
Total Split (s)	33.0	51.1	51.1	10.4	28.5	0.0	20.0	17.5	17.5	11.0	8.5	0.0
Act Effct Green (s)	29.6	51.9	51.9	6.3	24.5		23.9	14.9	14.9	7.2	4.5	
Actuated g/C Ratio	0.33	0.58	0.58	0.07	0.27		0.27	0.17	0.17	0.08	0.05	
v/c Ratio	1.12	0.18	0.08	0.34	1.03		0.90	0.56	0.14	0.60	0.90	
Control Delay	102.2	8.5	2.6	36.8	57.0		61.7	39.4	12.4	58.7	31.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	102.2	8.5	2.6	36.8	57.0		61.7	39.4	12.4	58.7	31.0	
LOS	F	A	A	D	E		E	D	B	E	C	
Approach Delay		57.4			56.2			48.6			35.3	
Approach LOS		E			E			D			D	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 47 (52%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.12

Intersection Signal Delay: 51.9









Intersection LOS: D

Intersection Capacity Utilization 107.4%




















ICU Level of Service G

Analysis Period (min) 15




















Splits and Phases: 32: Siempre Viva Road & Paseo De Las Americas

 ø2	 ø1	 ø4	 ø3
51.1 s	10.4 s	8.5 s	20 s
 ø5	 ø6	 ø8	 ø7
33 s	28.5 s	17.5 s	11 s

040501 - Otay Crossings

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	140	710	100	40	700	10	40	40	50	10	10	70
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	167	845	119	48	833	12	48	48	60	12	12	83
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)		1276										
pX, platoon unblocked				0.95			0.95	0.95	0.95	0.95	0.95	
vC, conflicting volume	845			964			1839	2179	482	1774	2232	423
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	845			910			1831	2188	403	1762	2244	423
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	79			93			0	0	90	0	59	86
cM capacity (veh/h)	787			707			21	31	567	0	29	580
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2			
Volume Total	167	563	401	48	556	290	155	24	83			
Volume Left	167	0	0	48	0	0	48	12	0			
Volume Right	0	0	119	0	0	12	60	0	83			
cSH	787	1700	1700	707	1700	1700	40	0	580			
Volume to Capacity	0.21	0.33	0.24	0.07	0.33	0.17	3.86	Err	0.14			
Queue Length 95th (ft)	20	0	0	5	0	0	Err	Err	12			
Control Delay (s)	10.8	0.0	0.0	10.5	0.0	0.0	Err	Err	12.2			
Lane LOS	B			B			F	F	B			
Approach Delay (s)	1.6			0.6			Err	Err				
Approach LOS							F	F				
Intersection Summary												
Average Delay			Err									
Intersection Capacity Utilization			51.5%		ICU Level of Service				A			
Analysis Period (min)			15									





















040501 - Otay Crossings

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	100	480	30	40	780	20	90	30	10	10	40	130
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	110	527	33	44	857	22	99	33	11	11	44	143
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)		1290			1303							
pX, platoon unblocked												
vC, conflicting volume	879			560			1445	1731	280	1467	1736	440
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	879			560			1445	1731	280	1467	1736	440
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	86			96			0	54	98	78	38	75
cM capacity (veh/h)	764			1007			31	71	717	49	71	565
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2			
Volume Total	110	352	209	44	571	308	143	55	143			
Volume Left	110	0	0	44	0	0	99	11	0			
Volume Right	0	0	33	0	0	22	11	0	143			
cSH	764	1700	1700	1007	1700	1700	39	65	565			
Volume to Capacity	0.14	0.21	0.12	0.04	0.34	0.18	3.71	0.85	0.25			
Queue Length 95th (ft)	13	0	0	3	0	0	Err	99	25			
Control Delay (s)	10.5	0.0	0.0	8.7	0.0	0.0	Err	174.7	13.5			
Lane LOS	B			A			F	F	B			
Approach Delay (s)	1.7			0.4			Err	58.3				
Approach LOS							F	F				
Intersection Summary												
Average Delay			745.3									
Intersection Capacity Utilization			51.6%			ICU Level of Service			A			
Analysis Period (min)			15									

040501 - Otay Crossings

34: Siempre Viva Rd & Enrico Fermi Dr

Cum 2020 w/SR-905 [Phases 1A & 1B] - AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frts		0.988			0.974			0.967			0.863	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1840	0	1770	3447	0	1770	3422	0	1770	3054	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1840	0	1770	3447	0	1770	3422	0	1770	3054	0
Satd. Flow (RTOR)		8			35			26			403	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	410	330	30	20	380	80	60	70	20	20	30	310
Adj. Flow (vph)	532	429	39	26	494	104	78	91	26	26	39	403
Lane Group Flow (vph)	532	468	0	26	598	0	78	117	0	26	442	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Total Split (s)	17.0	29.0	0.0	8.0	20.0	0.0	9.0	21.0	0.0	8.0	20.0	0.0
Act Effct Green (s)	14.5	36.9		5.0	21.6		7.3	14.7		4.7	8.5	
Actuated g/C Ratio	0.22	0.56		0.08	0.33		0.11	0.22		0.07	0.13	
v/c Ratio	0.70	0.45		0.19	0.52		0.40	0.15		0.21	0.59	
Control Delay	28.3	7.8		32.9	21.0		35.7	15.7		35.6	4.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	28.3	7.8		32.9	21.0		35.7	15.7		35.6	4.8	
LOS	C	A		C	C		D	B		D	A	
Approach Delay		18.7			21.5			23.7			6.5	
Approach LOS		B			C			C			A	

Intersection Summary

Cycle Length: 66

Actuated Cycle Length: 66

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 17.4









Intersection LOS: B

Intersection Capacity Utilization 52.3%





















ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 34: Siempre Viva Rd & Enrico Fermi Dr

			
ø2	ø1	ø4	ø3
29 s	8 s	20 s	9 s
			
ø5	ø6	ø7	ø8
17 s	20 s	8 s	21 s

040501 - Otay Crossings

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.966			0.980			0.978			0.855	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1799	0	1770	3468	0	1770	3461	0	1770	3026	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1799	0	1770	3468	0	1770	3461	0	1770	3026	0
Satd. Flow (RTOR)		19			18			21			292	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	370	100	30	30	390	60	170	120	20	20	10	280
Adj. Flow (vph)	385	104	31	31	406	62	177	125	21	21	10	292
Lane Group Flow (vph)	385	135	0	31	468	0	177	146	0	21	302	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Total Split (s)	21.5	36.2	0.0	10.8	25.5	0.0	21.5	32.7	0.0	10.3	21.5	0.0
Act Effct Green (s)	15.4	34.4		6.5	21.5		14.0	37.0		6.2	23.1	
Actuated g/C Ratio	0.17	0.38		0.07	0.24		0.16	0.41		0.07	0.26	
v/c Ratio	0.66	0.19		0.24	0.56		0.64	0.10		0.17	0.30	
Control Delay	39.6	9.6		44.1	31.8		46.2	16.3		42.2	9.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	39.6	9.6		44.1	31.8		46.2	16.3		42.2	9.2	
LOS	D	A		D	C		D	B		D	A	
Approach Delay		31.8			32.6			32.7			11.4	
Approach LOS		C			C			C			B	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 84 (93%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 28.2









Intersection LOS: C










Intersection Capacity Utilization 55.4%










ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 34: Siempre Viva Road & Enrico Fermi Rd























			
ø2	ø1	ø3	ø4
36.2 s	10.8 s	21.5 s	21.5 s
			
ø6	ø5	ø8	ø7
25.5 s	21.5 s	32.7 s	10.3 s

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	30	30	520	80	30	440
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	33	565	87	33	478
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL					
Median storage veh	1					
Upstream signal (ft)			1299			
pX, platoon unblocked	0.84	0.84			0.84	
vC, conflicting volume	1152	609			652	
vC1, stage 1 conf vol	609					
vC2, stage 2 conf vol	543					
vCu, unblocked vol	1182	532			584	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	90	93			96	
cM capacity (veh/h)	315	458			828	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	65	652	511			
Volume Left	33	0	33			
Volume Right	33	87	0			
cSH	373	1700	828			
Volume to Capacity	0.17	0.38	0.04			
Queue Length 95th (ft)	16	0	3			
Control Delay (s)	16.7	0.0	1.1			
Lane LOS	C		A			
Approach Delay (s)	16.7	0.0	1.1			
Approach LOS	C					
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization		58.0%		ICU Level of Service		B
Analysis Period (min)		15				

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	50	30	530	30	30	470
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	33	576	33	33	511
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL					
Median storage (veh)	1					
Upstream signal (ft)			1296			
pX, platoon unblocked	0.78	0.78			0.78	
vC, conflicting volume	1168	592			609	
vC1, stage 1 conf vol	592					
vC2, stage 2 conf vol	576					
vCu, unblocked vol	1215	480			500	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	82	93			96	
cM capacity (veh/h)	302	459			833	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	87	609	543			
Volume Left	54	0	33			
Volume Right	33	33	0			
cSH	347	1700	833			
Volume to Capacity	0.25	0.36	0.04			
Queue Length 95th (ft)	24	0	3			
Control Delay (s)	18.8	0.0	1.1			
Lane LOS	C		A			
Approach Delay (s)	18.8	0.0	1.1			
Approach LOS	C					
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			60.6%	ICU Level of Service		B
Analysis Period (min)			15			

040501 - Otay Crossings

67: Paseo De La Fuente & Alta Rd.
Cum 2020 w/SR-905 [Phases 1A & 1B] - AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frts		0.925				0.850		0.983			0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1723	0	1770	1863	1583	1770	1831	0	1770	1842	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1723	0	1770	1863	1583	1770	1831	0	1770	1842	0
Satd. Flow (RTOR)		33				33		11			6	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	30	30	30	40	30	30	30	540	70	40	400	30
Adj. Flow (vph)	33	33	33	43	33	33	33	587	76	43	435	33
Lane Group Flow (vph)	33	66	0	43	33	33	33	663	0	43	468	0
Turn Type	Prot			Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						
Total Split (s)	8.5	20.5	0.0	8.5	20.5	20.5	9.9	52.5	0.0	8.5	51.1	0.0
Act Effect Green (s)	4.9	8.3		5.0	10.6	10.6	6.4	51.5		5.0	53.1	
Actuated g/C Ratio	0.06	0.11		0.06	0.14	0.14	0.08	0.70		0.06	0.72	
v/c Ratio	0.30	0.31		0.38	0.13	0.13	0.23	0.52		0.38	0.35	
Control Delay	38.8	20.5		40.1	26.8	12.9	34.6	11.4		40.1	8.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	38.8	20.5		40.1	26.8	12.9	34.6	11.4		40.1	8.6	
LOS	D	C		D	C	B	C	B		D	A	
Approach Delay		26.6			27.8			12.5			11.3	
Approach LOS		C			C			B			B	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 73.6

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 14.2









Intersection Capacity Utilization 49.3%

Analysis Period (min) 15

Intersection LOS: B






















ICU Level of Service A

Splits and Phases: 67: Paseo De La Fuente & Alta Rd.

	ø2				ø1		ø4		ø3
52.5 s				8.5 s		20.5 s		8.5 s	
	ø5		ø6				ø7		ø8
9.9 s		51.1 s				8.5 s		20.5 s	

040501 - Otay Crossings

67: Paseo De La Fuente & Alta Rd
Cum 2020 w/SR-905 [Phases 1A & 1B] - PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frts		0.925				0.850		0.986			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1723	0	1770	1863	1583	1770	1837	0	1770	1846	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1723	0	1770	1863	1583	1770	1837	0	1770	1846	0
Satd. Flow (RTOR)		33				43		7			4	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	30	30	30	260	30	40	30	490	50	30	460	30
Adj. Flow (vph)	33	33	33	283	33	43	33	533	54	33	500	33
Lane Group Flow (vph)	33	66	0	283	33	43	33	587	0	33	533	0
Turn Type	Prot			Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						
Total Split (s)	9.9	20.5	0.0	22.5	33.1	33.1	8.5	38.5	0.0	8.5	38.5	0.0
Act Effct Green (s)	6.3	7.8		14.8	18.1	18.1	4.8	28.5		4.8	28.5	
Actuated g/C Ratio	0.09	0.12		0.24	0.30	0.30	0.07	0.47		0.07	0.47	
v/c Ratio	0.20	0.28		0.66	0.06	0.09	0.26	0.68		0.26	0.62	
Control Delay	38.1	22.6		32.6	20.3	8.6	41.4	21.4		41.4	19.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	38.1	22.6		32.6	20.3	8.6	41.4	21.4		41.4	19.4	
LOS	D	C		C	C	A	D	C		D	B	
Approach Delay		27.7			28.6			22.4			20.7	
Approach LOS		C			C			C			C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 61.1

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 23.5









Intersection Capacity Utilization 56.6%

Analysis Period (min) 15

Intersection LOS: C

ICU Level of Service B

Splits and Phases: 67: Paseo De La Fuente & Alta Rd

 ø1	 ø2	 ø4	 ø3
8.5 s	38.5 s	20.5 s	22.5 s
 ø5	 ø6	 ø7	 ø8
8.5 s	38.5 s	9.9 s	33.1 s

Cumulative – Intersection ILV Analysis

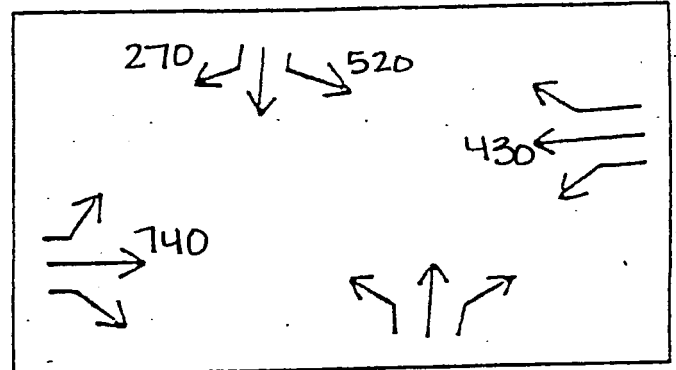
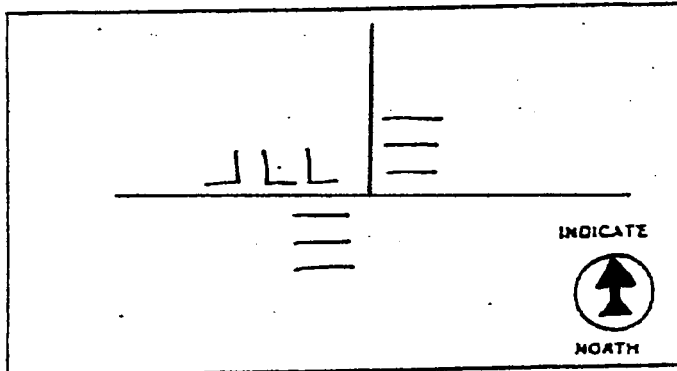
INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa / SR-125 SB
 Cumulative (2020) w/
 SR-905 (Phases 1A & 1B)
 DIAGRAM AND TRAFFIC FLOWS:

DIST. CO. RTE. P.M. 11 / SD / 125
 BY JB DATE 3-23-10
 TIME AM PM



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
<div> <div>143</div> <div>143</div> <div>144</div> </div> <div> <div>247</div> <div>247</div> <div>246</div> </div>	<div> <div>270</div> <div>260</div> <div>260</div> </div> <div> <div>270</div> <div>260</div> <div>260</div> </div>		

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
247	270		

TOTAL OPERATING LEVEL (ILV/hr):

Σ
517

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Olay Mesa / SR-125 SB

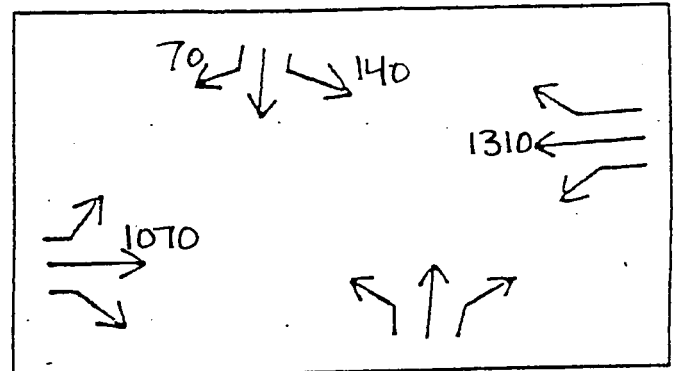
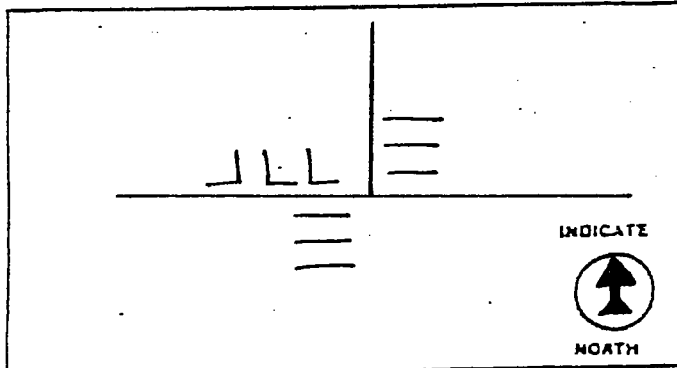
DIST. CO. RTE. P.M. 11 / SD / 125

Cumulative (2020) w/
SR-905 (Phases 1A & 1B)

BY JB DATE 3-23-10

TIME AM (PM)

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
—	436
—	437
—	437
357	—
357	—
356	—

Phase 2	
70	70
70	70
70	70

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
437

Phase 2
70

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
507

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Otay Mesa/SR-125 NB Ramp

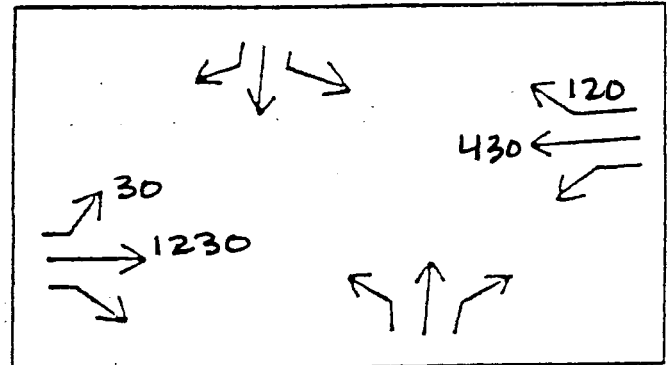
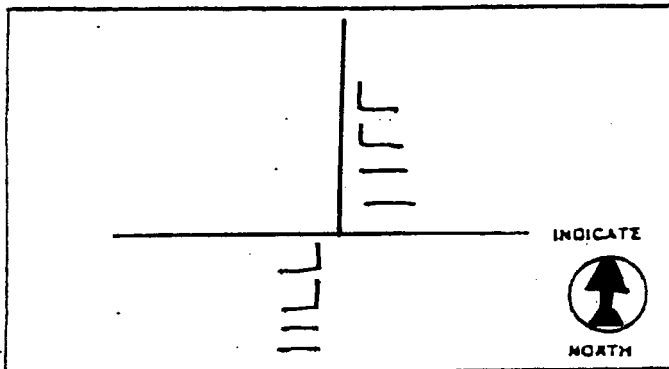
DIST. CO. RTE. P.M. 11/50/905

Cumulative (2020) w/
SR-905 (Phases 1A & 1B)

BY JLB DATE 3-23-10

TIME AM PM

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
15	15
15	15
15	15

Phase 2	
	600
	600
	215
	215
600	
600	

Phase 3

Phase 4

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
15

Phase 2
600

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
615

15 . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION Signalized Intersection CAPACITY ANALYSIS

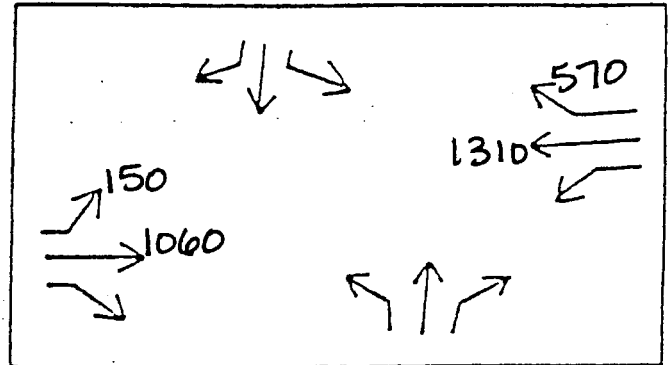
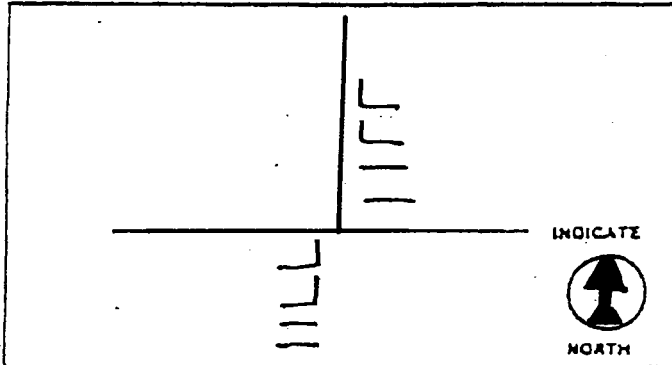
INTERSECTION Otay Mesa/SR-125 NB Ramp
Cumulative (2020) w/
SR-905 (Phases 1A & 1B)

DIST. CO. RTE. P.M. 11/50/905

BY JLB DATE 3-23-10

TIME _____ AM (PM)

DIAGRAM AND TRAFFIC FLOWS:



LANE VOLUMES (ILV/hr):

Phase 1	
75	└─┘
75	└─┘
75	└─┘
75	└─┘

Phase 2	
	└─┘ 285
	└─┘ 285
	└─┘ 655
	└─┘ 655
492	—
493	—

Phase 3	

Phase 4	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
75

Phase 2
655

Phase 3

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
730

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

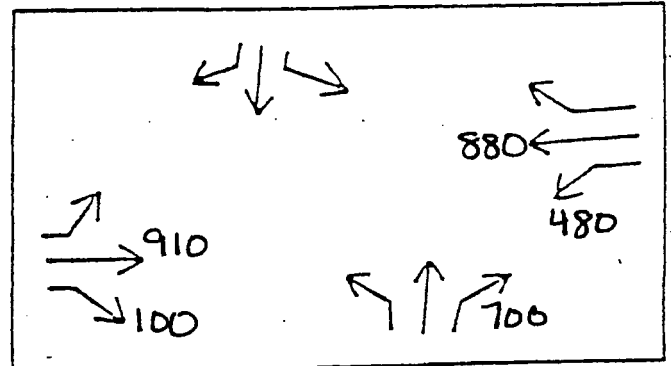
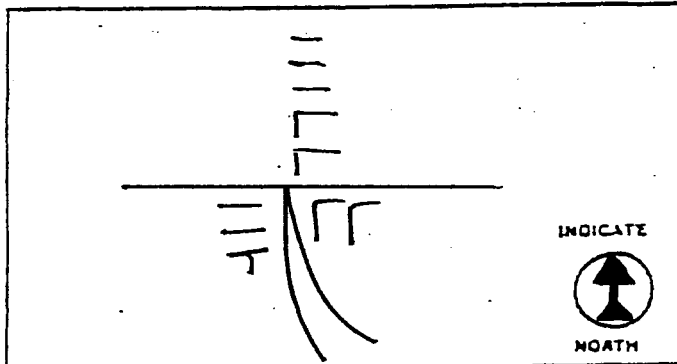
INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SR-905 SB
Cumulative (2020) w/ Ramp
SR-905 (Phases 1A & 1B)
 DIAGRAM AND TRAFFIC FLOWS:

DIST. CO. RTE. P.M. 11 / SD / 905
 BY DB DATE 3-23-10
 TIME AM PM



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
— 97 — 98 — 98 240 240 120 120	— 98 — 98 — 98 337 337 337	— 97 — 98 — 98 230 230	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
240	337	230	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
807

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

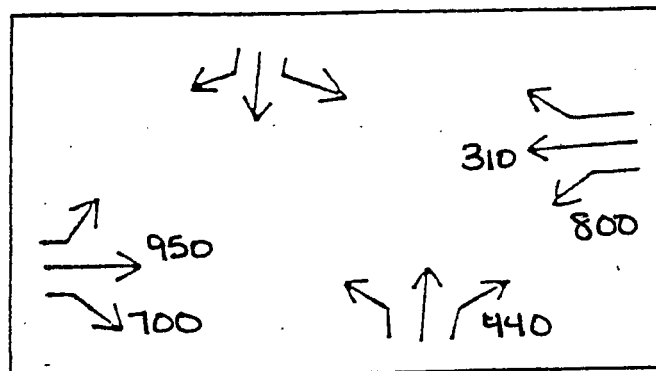
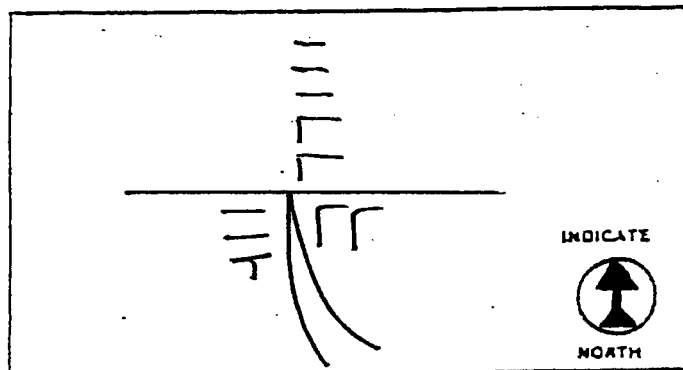
INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SR-905 SB
Cumulative (2020) w/ Ramp
SR-905 (Phases 1A & 1B)
 DIAGRAM AND TRAFFIC FLOWS:

DIST. CO. RTE. P.M. 11 / SD / 905
 BY DB DATE 3-23-10
 TIME AM (PM)



LANE VOLUMES (ILV/hr):

Phase 1
— 34 — 35 — 35 — 400 — 400 — 0 — 0

Phase 2
— 34 — 34 — 35 — 475 — 475 — 700

Phase 3
— 34 — 34 — 35 — 120 — 120

Phase 4
— — — — — —

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1
400

Phase 2
700

Phase 3
120

Phase 4

TOTAL OPERATING LEVEL (ILV/hr):

Σ
1,220

- Is . . .
- ☐ < 1200 ILV/hr.
 - ☒ > 1200 but < 1500 ILV/hr.
 - ☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

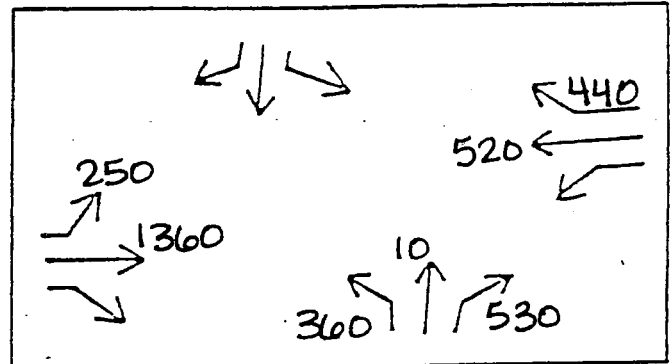
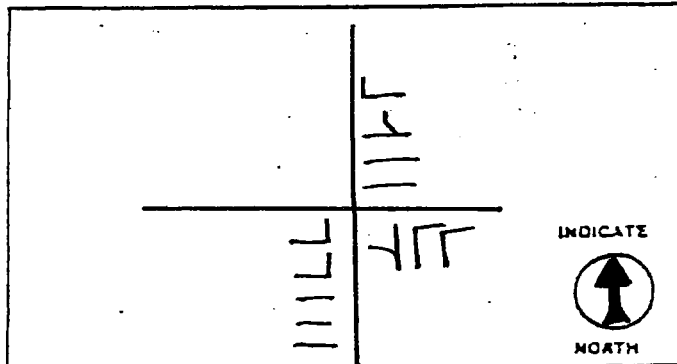
INTERSECTION Siempre Viva / SR-905 NB
Ramp

DIST. CO. RTE. P.M. 11/SD/905

Cumulative (2020) w/
 SR-905 (Phases 1A & 1B)
 DIAGRAM AND TRAFFIC FLOWS:

BY DLR DATE 3-23-10

TIME AM PM



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
<div>125 —</div> <div>125 —</div> <div>226 —</div> <div>227 —</div> <div>227 —</div>	<div>240 —</div> <div>240 —</div> <div>240 —</div> <div>240 —</div> <div>226 —</div> <div>227 —</div> <div>227 —</div>	<div>265 —</div> <div>265 —</div> <div>370 —</div>	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
227	240	370	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
837

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)

REMARKS:

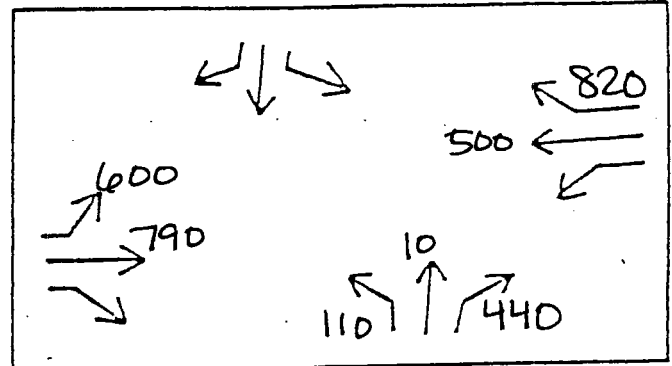
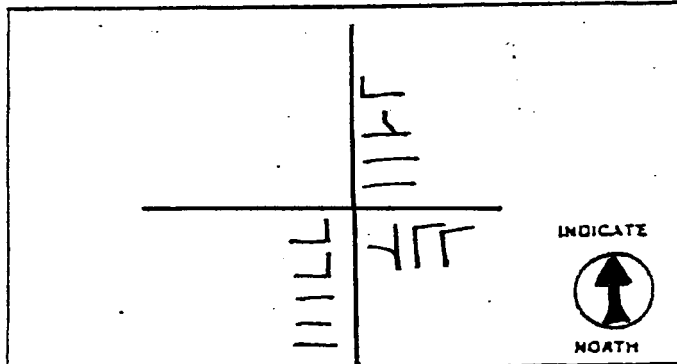
INTERSECTION

Signalized Intersection

CAPACITY ANALYSIS

INTERSECTION Siempre Viva / SR-905 NB
Cumulative (2020) Ramp
w/ SR-905 (Phases 1A & 1B)
 DIAGRAM AND TRAFFIC FLOWS:

DIST. CO. RTE. P.M. 11/SD/905
 BY ULB DATE 3-23-10
 TIME AM PM



LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
<div> <div>300</div> <div>300</div> <div>131</div> <div>132</div> <div>132</div> </div>	<div> <div>410</div> <div>410</div> <div>250</div> <div>250</div> </div> <div> <div>131</div> <div>132</div> <div>132</div> </div>	<div> <div>220</div> <div>220</div> <div>120</div> </div>	

CRITICAL LANE VOLUMES (ILV/hr):

Phase 1	Phase 2	Phase 3	Phase 4
300	410	220	

TOTAL OPERATING LEVEL (ILV/hr):

Σ
930

Is . . .

☒ < 1200 ILV/hr.

☐ > 1200 but < 1500 ILV/hr.

☐ > 1500 ILV/hr. (CAPACITY)










REMARKS:

APPENDIX K










- Existing + Unit 1 Project Access – Synchro Analysis
- Existing + Units 1-2 Project Access – Synchro Analysis
- Existing + Units 1-3 Project Access – Synchro Analysis
- Existing + Units 1-4 Project Access – Synchro Analysis
- Existing + Units 1-5 Project Access – Synchro Analysis

Existing + Unit 1 Project Access – Synchro Analysis

040501 - Otay Crossings










						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	285	132	33	0	0	71
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	310	143	36	0	0	77
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	36				799	36
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	36				799	36
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	80				100	93
cM capacity (veh/h)	1575				285	1037
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	453	36	77			
Volume Left	310	0	0			
Volume Right	0	0	77			
cSH	1575	1700	1037			
Volume to Capacity	0.20	0.02	0.07			
Queue Length 95th (ft)	18	0	6			
Control Delay (s)	5.9	0.0	8.8			
Lane LOS	A		A			
Approach Delay (s)	5.9	0.0	8.8			
Approach LOS			A			
Intersection Summary						
Average Delay			5.9			
Intersection Capacity Utilization			40.5%		ICU Level of Service	A
Analysis Period (min)			15			

040501 - Otay Crossings










						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	114	53	124	0	0	267
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	124	58	135	0	0	290
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	135				440	135
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	135				440	135
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				100	68
cM capacity (veh/h)	1450				525	914
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	182	135	290			
Volume Left	124	0	0			
Volume Right	0	0	290			
cSH	1450	1700	914			
Volume to Capacity	0.09	0.08	0.32			
Queue Length 95th (ft)	7	0	34			
Control Delay (s)	5.5	0.0	10.8			
Lane LOS	A		B			
Approach Delay (s)	5.5	0.0	10.8			
Approach LOS			B			
Intersection Summary						
Average Delay			6.8			
Intersection Capacity Utilization		42.2%		ICU Level of Service		A
Analysis Period (min)		15				

Existing + Units 1-2 Project Access – Synchro Analysis













040501 - Otay Crossings

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	731	193	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	795	210	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	420	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	420	0	0			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	27	87			
cM capacity (veh/h)	514	1085	1623			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	795	210	0			
Volume Left	0	210	0			
Volume Right	795	0	0			
cSH	1085	1623	1700			
Volume to Capacity	0.73	0.13	0.00			
Queue Length 95th (ft)	172	11	0			
Control Delay (s)	16.8	7.5	0.0			
Lane LOS	C	A				
Approach Delay (s)	16.8	7.5	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			14.9			
Intersection Capacity Utilization			62.6%	ICU Level of Service		B
Analysis Period (min)			15			













040501 - Otay Crossings

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	294	723	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	320	786	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1572	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1572	0	0			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	71	52			
cM capacity (veh/h)	63	1085	1623			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	320	786	0			
Volume Left	0	786	0			
Volume Right	320	0	0			
cSH	1085	1623	1700			
Volume to Capacity	0.29	0.48	0.00			
Queue Length 95th (ft)	31	69	0			
Control Delay (s)	9.7	9.3	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.7	9.3	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			9.4			
Intersection Capacity Utilization		64.9%		ICU Level of Service		C
Analysis Period (min)		15				










040501 - Otay Crossings

							
Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Sign Control	Stop			Free		Free	
Grade	0%			0%		0%	
Volume (veh/h)	115	0	0	122	68	146	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	125	0	0	133	0	159	0
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None						
Median storage veh							
Upstream signal (ft)							
pX, platoon unblocked					0.00		
vC, conflicting volume	291	159	159		0		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	291	159	159		0		
tC, single (s)	6.4	6.2	4.1		0.0		
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2		0.0		
p0 queue free %	82	100	100		0		
cM capacity (veh/h)	699	887	1421		0		
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2		
Volume Total	125	0	133	159	0		
Volume Left	125	0	0	0	0		
Volume Right	0	0	0	0	0		
cSH	699	1700	1700	1700	1700		
Volume to Capacity	0.18	0.00	0.08	0.09	0.00		
Queue Length 95th (ft)	16	0	0	0	0		
Control Delay (s)	11.3	0.0	0.0	0.0	0.0		
Lane LOS	B						
Approach Delay (s)	11.3	0.0		0.0			
Approach LOS	B						
Intersection Summary							
Average Delay			3.4				
Intersection Capacity Utilization			27.4%		ICU Level of Service		A
Analysis Period (min)			15				










040501 - Otay Crossings

							
Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Sign Control	Stop			Free		Free	
Grade	0%			0%		0%	
Volume (veh/h)	160	0	0	457	27	92	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	174	0	0	497	0	100	0
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None						
Median storage (veh)							
Upstream signal (ft)							
pX, platoon unblocked					0.00		
vC, conflicting volume	597	100	100		0		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	597	100	100		0		
tC, single (s)	6.4	6.2	4.1		0.0		
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2		0.0		
p0 queue free %	63	100	100		0		
cM capacity (veh/h)	466	956	1493		0		
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2		
Volume Total	174	0	497	100	0		
Volume Left	174	0	0	0	0		
Volume Right	0	0	0	0	0		
cSH	466	1700	1700	1700	1700		
Volume to Capacity	0.37	0.00	0.29	0.06	0.00		
Queue Length 95th (ft)	43	0	0	0	0		
Control Delay (s)	17.3	0.0	0.0	0.0	0.0		
Lane LOS	C						
Approach Delay (s)	17.3	0.0		0.0			
Approach LOS	C						
Intersection Summary							
Average Delay			3.9				
Intersection Capacity Utilization			39.6%		ICU Level of Service		A
Analysis Period (min)			15				

040501 - Otay Crossings

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	257	108	17	0	0	64
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	279	117	18	0	0	70
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	18				695	18
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	18				695	18
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	83				100	93
cM capacity (veh/h)	1598				337	1060
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	397	18	70			
Volume Left	279	0	0			
Volume Right	0	0	70			
cSH	1598	1700	1060			
Volume to Capacity	0.17	0.01	0.07			
Queue Length 95th (ft)	16	0	5			
Control Delay (s)	5.9	0.0	8.6			
Lane LOS	A		A			
Approach Delay (s)	5.9	0.0	8.6			
Approach LOS			A			
Intersection Summary						
Average Delay			6.0			
Intersection Capacity Utilization			37.2%		ICU Level of Service	A
Analysis Period (min)			15			










040501 - Otay Crossings

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	103	44	63	0	0	241
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	112	48	68	0	0	262
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	68				340	68
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	68				340	68
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				100	74
cM capacity (veh/h)	1533				608	995
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	160	68	262			
Volume Left	112	0	0			
Volume Right	0	0	262			
cSH	1533	1700	995			
Volume to Capacity	0.07	0.04	0.26			
Queue Length 95th (ft)	6	0	27			
Control Delay (s)	5.4	0.0	9.9			
Lane LOS	A		A			
Approach Delay (s)	5.4	0.0	9.9			
Approach LOS			A			
Intersection Summary						
Average Delay			7.1			
Intersection Capacity Utilization		36.3%		ICU Level of Service		A
Analysis Period (min)			15			

Existing + Units 1-3 Project Access – Synchro Analysis










040501 - Otay Crossings

Ex+Otay Crossings - Units 1-3- AM












						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	752	211	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	817	229	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	459	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	459	0	0			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	25	86			
cM capacity (veh/h)	481	1085	1623			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	817	229	0			
Volume Left	0	229	0			
Volume Right	817	0	0			
cSH	1085	1623	1700			
Volume to Capacity	0.75	0.14	0.00			
Queue Length 95th (ft)	187	12	0			
Control Delay (s)	17.7	7.6	0.0			
Lane LOS	C	A				
Approach Delay (s)	17.7	7.6	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			15.5			
Intersection Capacity Utilization			64.9%	ICU Level of Service		C
Analysis Period (min)			15			

040501 - Otay Crossings











Ex+Otay Crossings - Units 1-3- PM












						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	321	703	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	349	764	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1528	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1528	0	0			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	68	53			
cM capacity (veh/h)	68	1085	1623			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	349	764	0			
Volume Left	0	764	0			
Volume Right	349	0	0			
cSH	1085	1623	1700			
Volume to Capacity	0.32	0.47	0.00			
Queue Length 95th (ft)	35	65	0			
Control Delay (s)	9.9	9.2	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.9	9.2	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			9.4			
Intersection Capacity Utilization			65.5%	ICU Level of Service		C
Analysis Period (min)			15			












040501 - Otay Crossings

							
Movement	EBL	EBT	WBT	WBR	SBU	SBL	SBR
Lane Configurations							
Sign Control		Free	Free			Stop	
Grade		0%	0%			0%	
Volume (veh/h)	30	0	0	37	149	198	26
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	0	0	40	0	215	28
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type						None	
Median storage veh							
Upstream signal (ft)							
pX, platoon unblocked					0.00		
vC, conflicting volume	40				0	85	20
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	40				0	85	20
tC, single (s)	4.1				0.0	6.4	6.2
tC, 2 stage (s)							
tF (s)	2.2				0.0	3.5	3.3
p0 queue free %	98				0	76	97
cM capacity (veh/h)	1569				0	897	1058
Direction, Lane #	EB 1	WB 1	SB 1	SB 2			
Volume Total	33	40	143	100			
Volume Left	33	0	143	72			
Volume Right	0	40	0	28			
cSH	1569	1700	897	937			
Volume to Capacity	0.02	0.02	0.16	0.11			
Queue Length 95th (ft)	2	0	14	9			
Control Delay (s)	7.3	0.0	9.8	9.3			
Lane LOS	A		A	A			
Approach Delay (s)	7.3	0.0	9.6				
Approach LOS			A				
Intersection Summary							
Average Delay			8.1				
Intersection Capacity Utilization			25.7%		ICU Level of Service		A
Analysis Period (min)			15				













040501 - Otay Crossings

							
Movement	EBL	EBT	WBT	WBR	SBU	SBL	SBR
Lane Configurations							
Sign Control		Free	Free			Stop	
Grade		0%	0%			0%	
Volume (veh/h)	22	0	0	139	60	245	29
Peak Hour Factor	0.95	0.95	0.95	0.95	0.92	0.95	0.95
Hourly flow rate (vph)	23	0	0	146	0	258	31
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type						None	
Median storage veh							
Upstream signal (ft)							
pX, platoon unblocked					0.00		
vC, conflicting volume	146				0	119	73
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	146				0	119	73
tC, single (s)	4.1				0.0	6.4	6.2
tC, 2 stage (s)							
tF (s)	2.2				0.0	3.5	3.3
p0 queue free %	98				0	70	97
cM capacity (veh/h)	1436				0	862	989
Direction, Lane #	EB 1	WB 1	SB 1	SB 2			
Volume Total	23	146	172	116			
Volume Left	23	0	172	86			
Volume Right	0	146	0	31			
cSH	1436	1700	862	892			
Volume to Capacity	0.02	0.09	0.20	0.13			
Queue Length 95th (ft)	1	0	19	11			
Control Delay (s)	7.5	0.0	10.2	9.6			
Lane LOS	A		B	A			
Approach Delay (s)	7.5	0.0	10.0				
Approach LOS			A				
Intersection Summary							
Average Delay			6.7				
Intersection Capacity Utilization			31.6%		ICU Level of Service		A
Analysis Period (min)			15				













							
Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Sign Control	Stop		Free				Free
Grade	0%		0%				0%
Volume (veh/h)	0	148	78	0	50	594	281
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	161	85	0	0	646	305
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None						
Median storage veh							
Upstream signal (ft)							
pX, platoon unblocked					0.00		
vC, conflicting volume	1682	85			0	85	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	1682	85			0	85	
tC, single (s)	6.4	6.2			0.0	4.1	
tC, 2 stage (s)							
tF (s)	3.5	3.3			0.0	2.2	
p0 queue free %	100	83			0	57	
cM capacity (veh/h)	60	974			0	1512	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2	SB 3		
Volume Total	161	85	323	323	305		
Volume Left	0	0	323	323	0		
Volume Right	161	0	0	0	0		
cSH	974	1700	1512	1512	1700		
Volume to Capacity	0.17	0.05	0.43	0.43	0.18		
Queue Length 95th (ft)	15	0	55	55	0		
Control Delay (s)	9.4	0.0	9.1	9.1	0.0		
Lane LOS	A		A	A			
Approach Delay (s)	9.4	0.0	6.2				
Approach LOS	A						
Intersection Summary							
Average Delay			6.2				
Intersection Capacity Utilization			40.9%		ICU Level of Service		A
Analysis Period (min)			15				

							
Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Sign Control	Stop		Free				Free
Grade	0%		0%				0%
Volume (veh/h)	0	557	269	0	20	239	113
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	605	292	0	0	260	123
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None						
Median storage veh							
Upstream signal (ft)							
pX, platoon unblocked					0.00		
vC, conflicting volume	935	292			0	292	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	935	292			0	292	
tC, single (s)	6.4	6.2			0.0	4.1	
tC, 2 stage (s)							
tF (s)	3.5	3.3			0.0	2.2	
p0 queue free %	100	19			0	80	
cM capacity (veh/h)	234	747			0	1269	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2	SB 3		
Volume Total	605	292	130	130	123		
Volume Left	0	0	130	130	0		
Volume Right	605	0	0	0	0		
cSH	747	1700	1269	1269	1700		
Volume to Capacity	0.81	0.17	0.20	0.20	0.07		
Queue Length 95th (ft)	216	0	19	19	0		
Control Delay (s)	27.0	0.0	8.6	8.6	0.0		
Lane LOS	D		A	A			
Approach Delay (s)	27.0	0.0	5.8				
Approach LOS	D						
Intersection Summary							
Average Delay			14.5				
Intersection Capacity Utilization			66.0%		ICU Level of Service		C
Analysis Period (min)			15				










040501 - Otay Crossings

							
Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Sign Control	Stop			Free		Free	
Grade	0%			0%		0%	
Volume (veh/h)	70	0	0	154	99	95	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	76	0	0	167	0	103	0
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None						
Median storage veh							
Upstream signal (ft)							
pX, platoon unblocked					0.00		
vC, conflicting volume	271	103	103		0		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	271	103	103		0		
tC, single (s)	6.4	6.2	4.1		0.0		
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2		0.0		
p0 queue free %	89	100	100		0		
cM capacity (veh/h)	719	952	1489		0		
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2		
Volume Total	76	0	167	103	0		
Volume Left	76	0	0	0	0		
Volume Right	0	0	0	0	0		
cSH	719	1700	1700	1700	1700		
Volume to Capacity	0.11	0.00	0.10	0.06	0.00		
Queue Length 95th (ft)	9	0	0	0	0		
Control Delay (s)	10.6	0.0	0.0	0.0	0.0		
Lane LOS	B						
Approach Delay (s)	10.6	0.0		0.0			
Approach LOS	B						
Intersection Summary							
Average Delay			2.3				
Intersection Capacity Utilization			27.5%		ICU Level of Service		A
Analysis Period (min)			15				

040501 - Otay Crossings










							
Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Sign Control	Stop			Free		Free	
Grade	0%			0%		0%	
Volume (veh/h)	97	0	0	486	40	80	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	105	0	0	528	0	87	0
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None						
Median storage veh							
Upstream signal (ft)							
pX, platoon unblocked					0.00		
vC, conflicting volume	615	87	87		0		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	615	87	87		0		
tC, single (s)	6.4	6.2	4.1		0.0		
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2		0.0		
p0 queue free %	77	100	100		0		
cM capacity (veh/h)	455	972	1509		0		
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2		
Volume Total	105	0	528	87	0		
Volume Left	105	0	0	0	0		
Volume Right	0	0	0	0	0		
cSH	455	1700	1700	1700	1700		
Volume to Capacity	0.23	0.00	0.31	0.05	0.00		
Queue Length 95th (ft)	22	0	0	0	0		
Control Delay (s)	15.3	0.0	0.0	0.0	0.0		
Lane LOS	C						
Approach Delay (s)	15.3	0.0		0.0			
Approach LOS	C						
Intersection Summary							
Average Delay			2.2				
Intersection Capacity Utilization			44.3%		ICU Level of Service		A
Analysis Period (min)			15				

040501 - Otay Crossings

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	264	132	33	0	0	66
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	287	143	36	0	0	72
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	36				753	36
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	36				753	36
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	82				100	93
cM capacity (veh/h)	1575				309	1037
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	430	36	72			
Volume Left	287	0	0			
Volume Right	0	0	72			
cSH	1575	1700	1037			
Volume to Capacity	0.18	0.02	0.07			
Queue Length 95th (ft)	17	0	6			
Control Delay (s)	5.7	0.0	8.7			
Lane LOS	A		A			
Approach Delay (s)	5.7	0.0	8.7			
Approach LOS			A			
Intersection Summary						
Average Delay			5.7			
Intersection Capacity Utilization			39.0%		ICU Level of Service	A
Analysis Period (min)			15			

040501 - Otay Crossings












73: Calle Ventner & Street 'A'
Ex+Otay Crossings - Units 1-3- PM

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	106	53	124	0	0	248
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	115	58	135	0	0	270
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	135				423	135
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	135				423	135
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				100	71
cM capacity (veh/h)	1450				541	914
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	173	135	270			
Volume Left	115	0	0			
Volume Right	0	0	270			
cSH	1450	1700	914			
Volume to Capacity	0.08	0.08	0.29			
Queue Length 95th (ft)	6	0	31			
Control Delay (s)	5.3	0.0	10.6			
Lane LOS	A		B			
Approach Delay (s)	5.3	0.0	10.6			
Approach LOS			B			
Intersection Summary						
Average Delay			6.5			
Intersection Capacity Utilization			40.5%		ICU Level of Service	A
Analysis Period (min)			15			

Existing + Units 1-4 Project Access – Synchro Analysis

040501 - Otay Crossings

68: Calle Ventner & Alta Rd.
Ex+Otay Crossings - Units 1-4- AM

							
Lane Group	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.97	1.00
Frt	0.901		0.899				
Flt Protected	0.987					0.950	
Satd. Flow (prot)	1657	0	1675	0	0	3433	1863
Flt Permitted	0.987					0.950	
Satd. Flow (perm)	1657	0	1675	0	0	3433	1863
Satd. Flow (RTOR)	126		166				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	42	116	56	168	63	483	127
Adj. Flow (vph)	46	126	61	183	68	525	138
Lane Group Flow (vph)	172	0	244	0	0	593	138
Turn Type					Prot	Prot	
Protected Phases	8		2		1	1	6
Permitted Phases							
Total Split (s)	27.0	0.0	29.0	0.0	34.0	34.0	63.0
Act Effct Green (s)	8.0		9.1			13.5	28.6
Actuated g/C Ratio	0.19		0.22			0.33	0.70
v/c Ratio	0.42		0.49			0.52	0.11
Control Delay	10.6		10.3			14.1	3.7
Queue Delay	0.0		0.0			0.0	0.0
Total Delay	10.6		10.3			14.1	3.7
LOS	B		B			B	A
Approach Delay	10.6		10.3				12.1
Approach LOS	B		B				B

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 40.7

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 11.5





Intersection Capacity Utilization 48.3%












Analysis Period (min) 15

Intersection LOS: B

ICU Level of Service A

Splits and Phases: 68: Calle Ventner & Alta Rd.

		
ø1	ø2	
34 s	29 s	
		
ø6		ø8
63 s		27 s

							
Lane Group	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.97	1.00
Frt	0.901		0.958				
Flt Protected	0.987					0.950	
Satd. Flow (prot)	1657	0	1785	0	0	3433	1863
Flt Permitted	0.987					0.950	
Satd. Flow (perm)	1657	0	1785	0	0	3433	1863
Satd. Flow (RTOR)	162		30				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	158	434	152	68	25	194	52
Adj. Flow (vph)	172	472	165	74	27	211	57
Lane Group Flow (vph)	644	0	239	0	0	238	57
Turn Type					Prot	Prot	
Protected Phases	8		2		1	1	6
Permitted Phases							
Total Split (s)	33.0	0.0	41.0	0.0	16.0	16.0	57.0
Act Effct Green (s)	28.5		13.1			9.9	27.0
Actuated g/C Ratio	0.45		0.21			0.16	0.42
v/c Ratio	0.77		0.61			0.45	0.07
Control Delay	20.7		27.2			28.4	10.6
Queue Delay	0.0		0.0			0.0	0.0
Total Delay	20.7		27.2			28.4	10.6
LOS	C		C			C	B
Approach Delay	20.7		27.2				25.0
Approach LOS	C		C				C

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 63.6

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 23.1





Intersection Capacity Utilization 63.9%

Analysis Period (min) 15










Intersection LOS: C

ICU Level of Service B










Splits and Phases: 68: Calle Ventner & Alta Rd

		
ø1	ø2	
16 s	41 s	
		
ø6		ø8
57 s		33 s












040501 - Otay Crossings

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	391	96	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	425	104	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	209	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	209	0	0			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	61	94			
cM capacity (veh/h)	730	1085	1623			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	425	104	0			
Volume Left	0	104	0			
Volume Right	425	0	0			
cSH	1085	1623	1700			
Volume to Capacity	0.39	0.06	0.00			
Queue Length 95th (ft)	47	5	0			
Control Delay (s)	10.4	7.4	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.4	7.4	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			9.8			
Intersection Capacity Utilization			36.2%	ICU Level of Service		A
Analysis Period (min)			15			

040501 - Otay Crossings












						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	167	356	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	182	387	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	774	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	774	0	0			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	83	76			
cM capacity (veh/h)	279	1085	1623			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	182	387	0			
Volume Left	0	387	0			
Volume Right	182	0	0			
cSH	1085	1623	1700			
Volume to Capacity	0.17	0.24	0.00			
Queue Length 95th (ft)	15	23	0			
Control Delay (s)	9.0	7.9	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.0	7.9	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			8.3			
Intersection Capacity Utilization			36.7%	ICU Level of Service		A
Analysis Period (min)			15			

040501 - Otay Crossings



















						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	328	737	208	0	1	74
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	353	792	224	0	1	80
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	224				1722	224
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	224				1722	224
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	74				99	90
cM capacity (veh/h)	1345				72	816
Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2	
Volume Total	353	792	224	28	53	
Volume Left	353	0	0	1	0	
Volume Right	0	0	0	27	53	
cSH	1345	1700	1700	583	816	
Volume to Capacity	0.26	0.47	0.13	0.05	0.07	
Queue Length 95th (ft)	26	0	0	4	5	
Control Delay (s)	8.6	0.0	0.0	11.5	9.7	
Lane LOS	A			B	A	
Approach Delay (s)	2.7		0.0	10.3		
Approach LOS				B		
Intersection Summary						
Average Delay			2.7			
Intersection Capacity Utilization			48.8%		ICU Level of Service	A
Analysis Period (min)			15			

040501 - Otay Crossings



















24: Airway Rd & Alta Rd
Ex+Otay Crossings - Units 1-4- PM

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	142	297	724	0	1	276
Peak Hour Factor	0.92	0.95	0.95	0.92	0.92	0.92
Hourly flow rate (vph)	154	313	762	0	1	300
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	762				1383	762
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	762				1383	762
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	82				99	26
cM capacity (veh/h)	850				130	405
Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2	
Volume Total	154	313	762	101	200	
Volume Left	154	0	0	1	0	
Volume Right	0	0	0	100	200	
cSH	850	1700	1700	396	405	
Volume to Capacity	0.18	0.18	0.45	0.26	0.49	
Queue Length 95th (ft)	17	0	0	25	66	
Control Delay (s)	10.2	0.0	0.0	17.2	22.3	
Lane LOS	B			C	C	
Approach Delay (s)	3.4		0.0	20.6		
Approach LOS				C		
Intersection Summary						
Average Delay			5.1			
Intersection Capacity Utilization			61.7%		ICU Level of Service	B
Analysis Period (min)			15			

040501 - Otay Crossings










												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	169	252	315	0	63	0	79	0	0	0	0	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	184	274	342	0	68	0	86	0	0	0	0	65
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1	SB 2						
Volume Total (vph)	184	616	68	86	0	65						
Volume Left (vph)	184	0	0	86	0	0						
Volume Right (vph)	0	342	0	0	0	65						
Hadj (s)	0.53	-0.35	0.03	0.23	0.00	-0.67						
Departure Headway (s)	5.6	4.7	5.8	6.6	6.6	5.9						
Degree Utilization, x	0.29	0.81	0.11	0.16	0.00	0.11						
Capacity (veh/h)	633	749	585	514	520	560						
Control Delay (s)	9.7	23.2	9.6	10.9	8.4	8.5						
Approach Delay (s)	20.1		9.6	10.9	8.5							
Approach LOS	C		A	B	A							
Intersection Summary												
Delay			17.9									
HCM Level of Service			C									
Intersection Capacity Utilization			43.6%		ICU Level of Service					A		
Analysis Period (min)			15									

040501 - Otay Crossings

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	69	101	127	0	237	0	296	0	0	0	0	192
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	73	106	134	0	249	0	312	0	0	0	0	202
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1	SB 2						
Volume Total (vph)	73	240	249	312	0	202						
Volume Left (vph)	73	0	0	312	0	0						
Volume Right (vph)	0	134	0	0	0	202						
Hadj (s)	0.53	-0.36	0.03	0.23	0.00	-0.67						
Departure Headway (s)	7.4	6.5	7.0	7.0	7.1	6.4						
Degree Utilization, x	0.15	0.43	0.49	0.61	0.00	0.36						
Capacity (veh/h)	452	506	468	486	476	500						
Control Delay (s)	10.5	13.1	16.5	20.3	8.9	11.7						
Approach Delay (s)	12.5		16.5	20.3	11.7							
Approach LOS	B		C	C	B							
Intersection Summary												
Delay			15.6									
HCM Level of Service			C									
Intersection Capacity Utilization			52.0%		ICU Level of Service					A		
Analysis Period (min)			15									










040501 - Otay Crossings

69: Street 'B' & Alta Rd.
Ex+Otay Crossings - Units 1-4- AM













						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	32	32	202	126	126	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	35	35	220	137	137	47
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						1232
pX, platoon unblocked						
vC, conflicting volume	609	288			357	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	609	288			357	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	91	95			89	
cM capacity (veh/h)	406	751			1202	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	70	357	184			
Volume Left	35	0	137			
Volume Right	35	137	0			
cSH	527	1700	1202			
Volume to Capacity	0.13	0.21	0.11			
Queue Length 95th (ft)	11	0	10			
Control Delay (s)	12.9	0.0	6.5			
Lane LOS	B		A			
Approach Delay (s)	12.9	0.0	6.5			
Approach LOS	B					
Intersection Summary						
Average Delay			3.4			
Intersection Capacity Utilization		41.3%		ICU Level of Service		A
Analysis Period (min)		15				

040501 - Otay Crossings













69: Street 'B' & Alta Rd
Ex+Otay Crossings - Units 1-4- PM

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	118	118	91	51	51	159
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	128	128	99	55	55	173
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						1232
pX, platoon unblocked						
vC, conflicting volume	410	127			154	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	410	127			154	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	78	86			96	
cM capacity (veh/h)	574	924			1426	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	257	154	228			
Volume Left	128	0	55			
Volume Right	128	55	0			
cSH	708	1700	1426			
Volume to Capacity	0.36	0.09	0.04			
Queue Length 95th (ft)	41	0	3			
Control Delay (s)	12.9	0.0	2.1			
Lane LOS	B		A			
Approach Delay (s)	12.9	0.0	2.1			
Approach LOS	B					
Intersection Summary						
Average Delay			5.9			
Intersection Capacity Utilization		42.9%		ICU Level of Service		A
Analysis Period (min)		15				











040501 - Otay Crossings

							
Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Sign Control	Stop			Free		Free	
Grade	0%			0%		0%	
Volume (veh/h)	100	0	0	43	63	95	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	109	0	0	47	0	103	0
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None						
Median storage veh							
Upstream signal (ft)							
pX, platoon unblocked					0.00		
vC, conflicting volume	150	103	103		0		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	150	103	103		0		
tC, single (s)	6.4	6.2	4.1		0.0		
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2		0.0		
p0 queue free %	87	100	100		0		
cM capacity (veh/h)	842	952	1489		0		
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2		
Volume Total	109	0	47	103	0		
Volume Left	109	0	0	0	0		
Volume Right	0	0	0	0	0		
cSH	842	1700	1700	1700	1700		
Volume to Capacity	0.13	0.00	0.03	0.06	0.00		
Queue Length 95th (ft)	11	0	0	0	0		
Control Delay (s)	9.9	0.0	0.0	0.0	0.0		
Lane LOS	A						
Approach Delay (s)	9.9	0.0		0.0			
Approach LOS	A						
Intersection Summary							
Average Delay			4.2				
Intersection Capacity Utilization			22.4%		ICU Level of Service		A
Analysis Period (min)			15				











040501 - Otay Crossings

							
Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Sign Control	Stop			Free		Free	
Grade	0%			0%		0%	
Volume (veh/h)	93	0	0	159	25	73	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	101	0	0	173	0	79	0
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None						
Median storage veh							
Upstream signal (ft)							
pX, platoon unblocked					0.00		
vC, conflicting volume	252	79	79		0		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	252	79	79		0		
tC, single (s)	6.4	6.2	4.1		0.0		
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2		0.0		
p0 queue free %	86	100	100		0		
cM capacity (veh/h)	736	981	1519		0		
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2		
Volume Total	101	0	173	79	0		
Volume Left	101	0	0	0	0		
Volume Right	0	0	0	0	0		
cSH	736	1700	1700	1700	1700		
Volume to Capacity	0.14	0.00	0.10	0.05	0.00		
Queue Length 95th (ft)	12	0	0	0	0		
Control Delay (s)	10.7	0.0	0.0	0.0	0.0		
Lane LOS	B						
Approach Delay (s)	10.7	0.0		0.0			
Approach LOS	B						
Intersection Summary							
Average Delay			3.1				
Intersection Capacity Utilization			26.9%		ICU Level of Service		A
Analysis Period (min)			15				

040501 - Otay Crossings










						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	32	26	0	126	105
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	35	28	0	137	114
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	416	28			28	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	416	28			28	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	97			91	
cM capacity (veh/h)	542	1047			1585	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	35	28	137	114		
Volume Left	0	0	137	0		
Volume Right	35	0	0	0		
cSH	1047	1700	1585	1700		
Volume to Capacity	0.03	0.02	0.09	0.07		
Queue Length 95th (ft)	3	0	7	0		
Control Delay (s)	8.6	0.0	7.5	0.0		
Lane LOS	A		A			
Approach Delay (s)	8.6	0.0	4.1			
Approach LOS	A					
Intersection Summary						
Average Delay			4.2			
Intersection Capacity Utilization			23.6%		ICU Level of Service	A
Analysis Period (min)			15			

040501 - Otay Crossings

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	118	99	0	51	42
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	128	108	0	55	46
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	264	108			108	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	264	108			108	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	86			96	
cM capacity (veh/h)	698	946			1483	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	128	108	55	46		
Volume Left	0	0	55	0		
Volume Right	128	0	0	0		
cSH	946	1700	1483	1700		
Volume to Capacity	0.14	0.06	0.04	0.03		
Queue Length 95th (ft)	12	0	3	0		
Control Delay (s)	9.4	0.0	7.5	0.0		
Lane LOS	A		A			
Approach Delay (s)	9.4	0.0	4.1			
Approach LOS	A					
Intersection Summary						
Average Delay			4.8			
Intersection Capacity Utilization			23.5%		ICU Level of Service	A
Analysis Period (min)			15			










040501 - Otay Crossings

73: Calle Ventner & Street 'A'
Ex+Otay Crossings - Units 1-4- AM

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	273	168	37	0	0	68
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	297	183	40	0	0	74
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)		1015				
pX, platoon unblocked						
vC, conflicting volume	40				816	40
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	40				816	40
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	81				100	93
cM capacity (veh/h)	1569				281	1031
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	479	40	74			
Volume Left	297	0	0			
Volume Right	0	0	74			
cSH	1569	1700	1031			
Volume to Capacity	0.19	0.02	0.07			
Queue Length 95th (ft)	17	0	6			
Control Delay (s)	5.5	0.0	8.8			
Lane LOS	A		A			
Approach Delay (s)	5.5	0.0	8.8			
Approach LOS			A			
Intersection Summary						
Average Delay			5.5			
Intersection Capacity Utilization			41.5%		ICU Level of Service	A
Analysis Period (min)			15			

040501 - Otay Crossings












73: Calle Ventner & Street 'A'
Ex+Otay Crossings - Units 1-4- PM

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	110	68	138	0	0	256
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	120	74	150	0	0	278
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)		1016				
pX, platoon unblocked						
vC, conflicting volume	150				463	150
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	150				463	150
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				100	69
cM capacity (veh/h)	1431				511	896
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	193	150	278			
Volume Left	120	0	0			
Volume Right	0	0	278			
cSH	1431	1700	896			
Volume to Capacity	0.08	0.09	0.31			
Queue Length 95th (ft)	7	0	33			
Control Delay (s)	5.0	0.0	10.8			
Lane LOS	A		B			
Approach Delay (s)	5.0	0.0	10.8			
Approach LOS			B			
Intersection Summary						
Average Delay			6.4			
Intersection Capacity Utilization		42.8%		ICU Level of Service		A
Analysis Period (min)		15				

Existing + Units 1-5 Project Access – Synchro Analysis

040501 - Otay Crossings

68: Calle Ventner & Alta Rd.
Ex+Otay Crossings - Units 1-5- AM

							
Lane Group	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.97	1.00
Frt	0.901		0.899				
Flt Protected	0.987					0.950	
Satd. Flow (prot)	1657	0	1675	0	0	3433	1863
Flt Permitted	0.987					0.950	
Satd. Flow (perm)	1657	0	1675	0	0	3433	1863
Satd. Flow (RTOR)	126		166				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	42	116	56	168	63	483	127
Adj. Flow (vph)	46	126	61	183	68	525	138
Lane Group Flow (vph)	172	0	244	0	0	593	138
Turn Type					Prot	Prot	
Protected Phases	8		2		1	1	6
Permitted Phases							
Total Split (s)	27.0	0.0	29.0	0.0	34.0	34.0	63.0
Act Effct Green (s)	8.0		9.1			13.5	28.6
Actuated g/C Ratio	0.19		0.22			0.33	0.70
v/c Ratio	0.42		0.49			0.52	0.11
Control Delay	10.6		10.3			14.1	3.7
Queue Delay	0.0		0.0			0.0	0.0
Total Delay	10.6		10.3			14.1	3.7
LOS	B		B			B	A
Approach Delay	10.6		10.3				12.1
Approach LOS	B		B				B

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 40.7

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 11.5

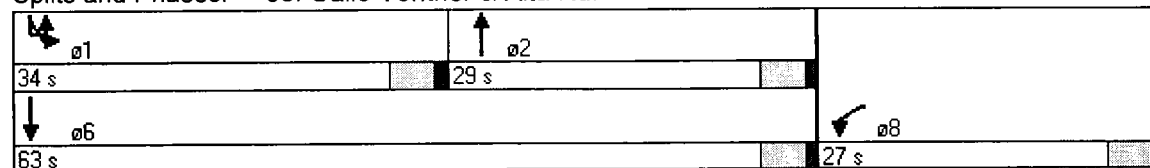
Intersection Capacity Utilization 48.3%












Analysis Period (min) 15

Intersection LOS: B

ICU Level of Service A

Splits and Phases: 68: Calle Ventner & Alta Rd.



							
Lane Group	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.97	1.00
Fr _t	0.901		0.958				
Flt Protected	0.987					0.950	
Satd. Flow (prot)	1657	0	1785	0	0	3433	1863
Flt Permitted	0.987					0.950	
Satd. Flow (perm)	1657	0	1785	0	0	3433	1863
Satd. Flow (RTOR)	162		30				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	158	434	152	68	25	194	52
Adj. Flow (vph)	172	472	165	74	27	211	57
Lane Group Flow (vph)	644	0	239	0	0	238	57
Turn Type					Prot	Prot	
Protected Phases	8		2		1	1	6
Permitted Phases							
Total Split (s)	33.0	0.0	41.0	0.0	16.0	16.0	57.0
Act Effct Green (s)	28.5		13.1			9.9	27.0
Actuated g/C Ratio	0.45		0.21			0.16	0.42
v/c Ratio	0.77		0.61			0.45	0.07
Control Delay	20.7		27.2			28.4	10.6
Queue Delay	0.0		0.0			0.0	0.0
Total Delay	20.7		27.2			28.4	10.6
LOS	C		C			C	B
Approach Delay	20.7		27.2				25.0
Approach LOS	C		C				C

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 63.6

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 23.1





Intersection Capacity Utilization 63.9%

Analysis Period (min) 15










Intersection LOS: C

ICU Level of Service B










Splits and Phases: 68: Calle Ventner & Alta Rd

		
ø1	ø2	
16 s	41 s	
		
ø6		ø8
57 s		33 s












040501 - Otay Crossings

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	423	144	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	460	157	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	313	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	313	0	0			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	58	90			
cM capacity (veh/h)	614	1085	1623			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	460	157	0			
Volume Left	0	157	0			
Volume Right	460	0	0			
cSH	1085	1623	1700			
Volume to Capacity	0.42	0.10	0.00			
Queue Length 95th (ft)	54	8	0			
Control Delay (s)	10.7	7.5	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.7	7.5	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			9.9			
Intersection Capacity Utilization		40.8%		ICU Level of Service		A
Analysis Period (min)		15				

040501 - Otay Crossings












						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	203	392	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	221	426	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	852	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	852	0	0			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	80	74			
cM capacity (veh/h)	243	1085	1623			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	221	426	0			
Volume Left	0	426	0			
Volume Right	221	0	0			
cSH	1085	1623	1700			
Volume to Capacity	0.20	0.26	0.00			
Queue Length 95th (ft)	19	27	0			
Control Delay (s)	9.2	8.0	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.2	8.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			8.4			
Intersection Capacity Utilization		41.0%		ICU Level of Service		A
Analysis Period (min)			15			

040501 - Otay Crossings




















						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	328	769	256	0	1	74
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	353	827	275	0	1	80
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	275				1808	275
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	275				1808	275
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	73				98	90
cM capacity (veh/h)	1288				63	763
Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2	
Volume Total	353	827	275	28	53	
Volume Left	353	0	0	1	0	
Volume Right	0	0	0	27	53	
cSH	1288	1700	1700	533	763	
Volume to Capacity	0.27	0.49	0.16	0.05	0.07	
Queue Length 95th (ft)	28	0	0	4	6	
Control Delay (s)	8.8	0.0	0.0	12.1	10.1	
Lane LOS	A			B	B	
Approach Delay (s)	2.6		0.0	10.8		
Approach LOS				B		
Intersection Summary						
Average Delay			2.6			
Intersection Capacity Utilization			50.5%		ICU Level of Service	A
Analysis Period (min)			15			

040501 - Otay Crossings




















24: Airway Rd & Alta Rd
Ex+Otay Crossings - Units 1-5- PM

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	142	333	760	0	1	276
Peak Hour Factor	0.92	0.95	0.95	0.92	0.92	0.92
Hourly flow rate (vph)	154	351	800	0	1	300
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	800				1459	800
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	800				1459	800
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	81				99	22
cM capacity (veh/h)	823				116	385
Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2	
Volume Total	154	351	800	101	200	
Volume Left	154	0	0	1	0	
Volume Right	0	0	0	100	200	
cSH	823	1700	1700	376	385	
Volume to Capacity	0.19	0.21	0.47	0.27	0.52	
Queue Length 95th (ft)	17	0	0	27	72	
Control Delay (s)	10.4	0.0	0.0	18.1	24.0	
Lane LOS	B			C	C	
Approach Delay (s)	3.2		0.0	22.0		
Approach LOS				C		
Intersection Summary						
Average Delay			5.1			
Intersection Capacity Utilization			63.6%		ICU Level of Service	B
Analysis Period (min)			15			










040501 - Otay Crossings

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	169	252	347	0	63	0	127	48	0	0	32	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	184	274	377	0	68	0	138	52	0	0	35	65
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2					
Volume Total (vph)	184	651	68	138	52	35	65					
Volume Left (vph)	184	0	0	138	0	0	0					
Volume Right (vph)	0	377	0	0	0	0	65					
Hadj (s)	0.53	-0.37	0.03	0.53	0.03	0.03	-0.67					
Departure Headway (s)	6.1	5.2	6.4	7.4	6.9	7.1	6.4					
Degree Utilization, x	0.31	0.94	0.12	0.29	0.10	0.07	0.12					
Capacity (veh/h)	574	688	537	474	506	487	540					
Control Delay (s)	10.6	42.0	10.3	12.2	9.5	9.5	9.1					
Approach Delay (s)	35.1		10.3	11.4		9.2						
Approach LOS	E		B	B		A						
Intersection Summary												
Delay			27.7									
HCM Level of Service			D									
Intersection Capacity Utilization			54.9%		ICU Level of Service					A		
Analysis Period (min)			15									

040501 - Otay Crossings










												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	69	101	163	0	237	0	332	36	0	0	36	192
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	73	106	172	0	249	0	349	38	0	0	38	202
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2					
Volume Total (vph)	73	278	249	349	38	38	202					
Volume Left (vph)	73	0	0	349	0	0	0					
Volume Right (vph)	0	172	0	0	0	0	202					
Hadj (s)	0.53	-0.40	0.03	0.53	0.03	0.03	-0.67					
Departure Headway (s)	7.7	6.8	7.3	7.6	7.0	7.5	6.8					
Degree Utilization, x	0.16	0.53	0.51	0.73	0.07	0.08	0.38					
Capacity (veh/h)	435	490	451	461	485	438	478					
Control Delay (s)	11.0	15.9	17.6	27.4	9.4	9.9	12.7					
Approach Delay (s)	14.9		17.6	25.7		12.2						
Approach LOS	B		C	D		B						
Intersection Summary												
Delay			18.3									
HCM Level of Service			C									
Intersection Capacity Utilization			62.8%		ICU Level of Service					B		
Analysis Period (min)			15									

040501 - Otay Crossings













						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	32	32	202	126	126	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	35	35	220	137	137	47
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						1232
pX, platoon unblocked						
vC, conflicting volume	609	288			357	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	609	288			357	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	91	95			89	
cM capacity (veh/h)	406	751			1202	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	70	357	184			
Volume Left	35	0	137			
Volume Right	35	137	0			
cSH	527	1700	1202			
Volume to Capacity	0.13	0.21	0.11			
Queue Length 95th (ft)	11	0	10			
Control Delay (s)	12.9	0.0	6.5			
Lane LOS	B		A			
Approach Delay (s)	12.9	0.0	6.5			
Approach LOS	B					
Intersection Summary						
Average Delay			3.4			
Intersection Capacity Utilization			41.3%		ICU Level of Service	A
Analysis Period (min)			15			

040501 - Otay Crossings













69: Street 'B' & Alta Rd
Ex+Otay Crossings - Units 1-5- PM

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	118	118	91	51	51	159
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	128	128	99	55	55	173
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						1232
pX, platoon unblocked						
vC, conflicting volume	410	127			154	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	410	127			154	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	78	86			96	
cM capacity (veh/h)	574	924			1426	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	257	154	228			
Volume Left	128	0	55			
Volume Right	128	55	0			
cSH	708	1700	1426			
Volume to Capacity	0.36	0.09	0.04			
Queue Length 95th (ft)	41	0	3			
Control Delay (s)	12.9	0.0	2.1			
Lane LOS	B		A			
Approach Delay (s)	12.9	0.0	2.1			
Approach LOS	B					
Intersection Summary						
Average Delay			5.9			
Intersection Capacity Utilization			42.9%		ICU Level of Service	A
Analysis Period (min)			15			











040501 - Otay Crossings

							
Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Sign Control	Stop			Free		Free	
Grade	0%			0%		0%	
Volume (veh/h)	100	0	0	91	63	95	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	109	0	0	99	0	103	0
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None						
Median storage veh							
Upstream signal (ft)							
pX, platoon unblocked					0.00		
vC, conflicting volume	202	103	103		0		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	202	103	103		0		
tC, single (s)	6.4	6.2	4.1		0.0		
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2		0.0		
p0 queue free %	86	100	100		0		
cM capacity (veh/h)	786	952	1489		0		
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2		
Volume Total	109	0	99	103	0		
Volume Left	109	0	0	0	0		
Volume Right	0	0	0	0	0		
cSH	786	1700	1700	1700	1700		
Volume to Capacity	0.14	0.00	0.06	0.06	0.00		
Queue Length 95th (ft)	12	0	0	0	0		
Control Delay (s)	10.3	0.0	0.0	0.0	0.0		
Lane LOS	B						
Approach Delay (s)	10.3	0.0		0.0			
Approach LOS	B						
Intersection Summary							
Average Delay			3.6				
Intersection Capacity Utilization			22.4%		ICU Level of Service		A
Analysis Period (min)			15				











040501 - Otay Crossings

							
Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Sign Control	Stop			Free		Free	
Grade	0%			0%		0%	
Volume (veh/h)	93	0	0	195	25	73	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	101	0	0	212	0	79	0
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None						
Median storage veh							
Upstream signal (ft)							
pX, platoon unblocked					0.00		
vC, conflicting volume	291	79	79		0		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	291	79	79		0		
tC, single (s)	6.4	6.2	4.1		0.0		
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2		0.0		
p0 queue free %	86	100	100		0		
cM capacity (veh/h)	699	981	1519		0		
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2		
Volume Total	101	0	212	79	0		
Volume Left	101	0	0	0	0		
Volume Right	0	0	0	0	0		
cSH	699	1700	1700	1700	1700		
Volume to Capacity	0.14	0.00	0.12	0.05	0.00		
Queue Length 95th (ft)	13	0	0	0	0		
Control Delay (s)	11.0	0.0	0.0	0.0	0.0		
Lane LOS	B						
Approach Delay (s)	11.0	0.0		0.0			
Approach LOS	B						
Intersection Summary							
Average Delay			2.8				
Intersection Capacity Utilization			28.7%		ICU Level of Service		A
Analysis Period (min)			15				










040501 - Otay Crossings

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	32	122	0	126	169
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	35	133	0	137	184
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	590	133			133	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	590	133			133	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	96			91	
cM capacity (veh/h)	426	917			1452	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	35	133	137	184		
Volume Left	0	0	137	0		
Volume Right	35	0	0	0		
cSH	917	1700	1452	1700		
Volume to Capacity	0.04	0.08	0.09	0.11		
Queue Length 95th (ft)	3	0	8	0		
Control Delay (s)	9.1	0.0	7.7	0.0		
Lane LOS	A		A			
Approach Delay (s)	9.1	0.0	3.3			
Approach LOS	A					
Intersection Summary						
Average Delay			2.8			
Intersection Capacity Utilization			26.7%		ICU Level of Service	A
Analysis Period (min)			15			

040501 - Otay Crossings










						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	118	170	0	51	113
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	128	185	0	55	123
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	418	185			185	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	418	185			185	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	85			96	
cM capacity (veh/h)	568	857			1390	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	128	185	55	123		
Volume Left	0	0	55	0		
Volume Right	128	0	0	0		
cSH	857	1700	1390	1700		
Volume to Capacity	0.15	0.11	0.04	0.07		
Queue Length 95th (ft)	13	0	3	0		
Control Delay (s)	9.9	0.0	7.7	0.0		
Lane LOS	A		A			
Approach Delay (s)	9.9	0.0	2.4			
Approach LOS	A					
Intersection Summary						
Average Delay			3.5			
Intersection Capacity Utilization			29.6%		ICU Level of Service	A
Analysis Period (min)			15			

040501 - Otay Crossings

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	273	168	37	0	0	68
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	297	183	40	0	0	74
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)		1015				
pX, platoon unblocked						
vC, conflicting volume	40				816	40
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	40				816	40
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	81				100	93
cM capacity (veh/h)	1569				281	1031
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	479	40	74			
Volume Left	297	0	0			
Volume Right	0	0	74			
cSH	1569	1700	1031			
Volume to Capacity	0.19	0.02	0.07			
Queue Length 95th (ft)	17	0	6			
Control Delay (s)	5.5	0.0	8.8			
Lane LOS	A		A			
Approach Delay (s)	5.5	0.0	8.8			
Approach LOS			A			
Intersection Summary						
Average Delay			5.5			
Intersection Capacity Utilization			41.5%		ICU Level of Service	A
Analysis Period (min)			15			

040501 - Otay Crossings

73: Calle Ventner & Street 'A'
Ex+Otay Crossings - Units 1-5- PM

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	110	68	138	0	0	256
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	120	74	150	0	0	278
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)		1016				
pX, platoon unblocked						
vC, conflicting volume	150				463	150
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	150				463	150
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				100	69
cM capacity (veh/h)	1431				511	896
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	193	150	278			
Volume Left	120	0	0			
Volume Right	0	0	278			
cSH	1431	1700	896			
Volume to Capacity	0.08	0.09	0.31			
Queue Length 95th (ft)	7	0	33			
Control Delay (s)	5.0	0.0	10.8			
Lane LOS	A		B			
Approach Delay (s)	5.0	0.0	10.8			
Approach LOS			B			
Intersection Summary						
Average Delay			6.4			
Intersection Capacity Utilization		42.8%		ICU Level of Service	A	
Analysis Period (min)		15				

APPENDIX L

- Freeway Analysis

Existing + Unit 1 Conditions								
Roadway Segment	# Lanes/Direction	Capacity	ADT	Peak Hour %	Direction Split	Truck Factor	V/C	LOS
State Route 125								
North of Otay Mesa Rd	2	4,600	31,239	8.0%	60%	5.0%	0.34	A
Existing State Route 905								
South of Siempre Viva Rd	2	4,600	28,310	8.29%	60%	5.11%	0.32	A
# Lanes - Number of lanes in one direction: HOV-High Occupancy Lanes								
Capacity - Capacity in one direction								
ADT - Average Daily Traffic								
Peak Hour % - Percentage of average daily traffic occurring during the peak hour								
Direction Split - Percentage of peak hour traffic traveling in peak direction.								
Truck Factor - Truck/terrain factor to represent influence of heavy vehicles and/or grades.								
Peak Hour Volume - Peak hour traffic in peak direction of travel/ For facilities with HOV lanes, ten percent is assumed to use HOV lanes.								
v/c Ratio - Volume to Capacity Ratio								

Existing + Units 1-2 Conditions							
Roadway Segment	# Lanes/Direction	Capacity	ADT	Peak Hour %	Direction Split	Truck Factor	V/C
State Route 125							
North of Otay Mesa Rd	2	4,600	32,417	8.0%	60%	5.0%	0.36
Existing State Route 905							
South of Siempre Viva Rd	2	4,600	28,604	8.29%	60%	5.11%	0.33
# Lanes - Number of lanes in one direction: HOV-High Occupancy Lanes							
Capacity - Capacity in one direction							
ADT - Average Daily Traffic							
Peak Hour % - Percentage of average daily traffic occurring during the peak hour							
Direction Split - Percentage of peak hour traffic traveling in peak direction.							
Truck Factor - Truck/terrain factor to represent influence of heavy vehicles and/or grades.							
Peak Hour Volume - Peak hour traffic in peak direction of travel/ For facilities with HOV lanes, ten percent is assumed to use HOV lanes.							
v/c Ratio - Volume to Capacity Ratio							

Existing + Units 1-3 Conditions								
Roadway Segment	# Lanes/Direction	Capacity	ADT	Peak Hour %	Direction Split	Truck Factor	V/C	LOS
State Route 125								
North of Otay Mesa Rd	2	4,600	33,089	8.0%	60%	5.0%	0.36	A
Existing State Route 905								
South of Siempre Viva Rd	2	4,600	28,773	8.29%	60%	5.11%	0.33	A

Lanes - Number of lanes in one direction: HOV-High Occupancy Lanes
Capacity - Capacity in one direction
ADT - Average Daily Traffic
Peak Hour % - Percentage of average daily traffic occurring during the peak hour
Direction Split - Percentage of peak hour traffic traveling in peak direction.
Truck Factor - Truck/terrain factor to represent influence of heavy vehicles and/or grades.
Peak Hour Volume - Peak hour traffic in peak direction of travel/ For facilities with HOV lanes, ten percent is assumed to use HOV lanes.
/c Ratio - Volume to Capacity Ratio

Existing + Units 1-4 Conditions							
Roadway Segment	# Lanes/Direction	Capacity	ADT	Peak Hour %	Direction Split	Truck Factor	V/C
State Route 125							LOS
North of Otay Mesa Rd	2	4,600	33,901	8.0%	60%	5.0%	0.37 A
Existing State Route 905							
South of Siempre Viva Rd	2	4,600	28,975	8.29%	60%	5.11%	0.33 A

Lanes - Number of lanes in one direction: HOV-High Occupancy Lanes

Capacity - Capacity in one direction

ADT - Average Daily Traffic

Peak Hour % - Percentage of average daily traffic occurring during the peak hour

Direction Split - Percentage of peak hour traffic traveling in peak direction.

Truck Factor - Truck/terrain factor to represent influence of heavy vehicles and/or grades.

Peak Hour Volume - Peak hour traffic in peak direction of travel/ For facilities with HOV lanes, ten percent is assumed to use HOV lanes.

v/c Ratio - Volume to Capacity Ratio

Existing + Project Build Out (Units 1-5) Conditions							
Roadway Segment	# Lanes/Direction	Capacity	ADT	Peak Hour %	Direction Split	Truck Factor	V/C
State Route 125							
North of Otay Mesa Rd	2	4,600	34,256	8.0%	60%	5.0%	0.38
Existing State Route 905							
South of Siempre Viva Rd	2	4,600	29,064	8.29%	60%	5.11%	0.33
# Lanes - Number of lanes in one direction: HOV-High Occupancy Lanes							
Capacity - Capacity in one direction							
ADT - Average Daily Traffic							
Peak Hour % - Percentage of average daily traffic occurring during the peak hour							
Direction Split - Percentage of peak hour traffic traveling in peak direction.							
Truck Factor - Truck/terrain factor to represent influence of heavy vehicles and/or grades.							
Peak Hour Volume - Peak hour traffic in peak direction of travel/ For facilities with HOV lanes, ten percent is assumed to use HOV lanes.							
v/c Ratio - Volume to Capacity Ratio							

Cumulative (Year 2020) w/ SR-905 Phases 1A & 1B Conditions								
Roadway Segment	# Lanes/Direction	Capacity	ADT	Peak Hour %	Direction Split	Truck Factor	V/C	LOS
State Route 125								
North of Otay Mesa Rd	2	4,600	13,490	8.0%	60%	5.0%	0.15	A
Existing State Route 905								
South of Siempre Viva Rd	3	6,900	76,130	8.29%	60%	5.11%	0.58	B
New State Route 905 Facility								
West of La Media Rd	3	6,900	102,240	8.29%	60%	5.11%	0.77	C
East of La Media Rd	3	6,900	90,160	8.29%	60%	5.11%	0.68	C

Lanes - Number of lanes in one direction: HOV-High Occupancy Lanes

Capacity - Capacity in one direction

ADT - Average Daily Traffic

Peak Hour % - Percentage of average daily traffic occurring during the peak hour

Direction Split - Percentage of peak hour traffic traveling in peak direction.

Truck Factor - Truck/terrain factor to represent influence of heavy vehicles and/or grades.

Peak Hour Volume - Peak hour traffic in peak direction of travel/ For facilities with HOV lanes, ten percent is assumed to use HOV lanes.

v/c Ratio - Volume to Capacity Ratio

2030 + Project Build Out (Units 1-5) Conditions								
Roadway Segment	# Lanes/Direction	Capacity	ADT	Peak Hour %	Direction Split	Truck Factor	V/C	LOS
State Route 125								
North of Otay Mesa Rd	2	4,600	80,100	8.0%	60%	5.0%	0.88	D
Existing State Route 905								
Airway Rd to Siempre Viva Rd	3	6,900	83,700	8.29%	60%	5.11%	0.63	C
South of Siempre Viva Rd	3	6,900	72,300	8.29%	60%	5.11%	0.55	B
New State Route 905 Facility								
West of La Media Rd	4	9,200	156,000	8.29%	60%	5.11%	0.89	D
East of La Media Rd	4	9,200	80,400	8.29%	60%	5.11%	0.46	B

Lanes - Number of lanes in one direction; HOV-High Occupancy Lanes
Capacity - Capacity in one direction
ADT - Average Daily Traffic
Peak Hour % - Percentage of average daily traffic occurring during the peak hour
Direction Split - Percentage of peak hour traffic traveling in peak direction.
Truck Factor - Truck/terrain factor to represent influence of heavy vehicles and/or grades.
Peak Hour Volume - Peak hour traffic in peak direction of travel/ For facilities with HOV lanes, ten percent is assumed to use HOV lanes.
v/c Ratio - Volume to Capacity Ratio

APPENDIX M

- Signal Warrants
- Illustration of Driveway Spacing

Signal Warrants

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 4)

Otay Mesa Road/Alta Road - Existing + Unit 1 Conditions

WARRANT 2 - Four Hour Vehicular Volume

SATISFIED* YES ☐ NO ☐

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	Hour
Both Approaches - Major Street			
Higher Approach - Minor Street			

*All plotted points fall above the curves in Figure 4C-1. (URBAN AREAS)	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<u>OR</u> , All plotted points fall above the curves in Figure 4C-2. (RURAL AREAS)	Yes <input type="checkbox"/>	No <input type="checkbox"/>

**WARRANT 3 - Peak Hour
(Part A or Part B must be satisfied)**

SATISFIED YES ☒ NO ☐

PART A

SATISFIED YES ☒ NO ☐

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; <u>AND</u>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; <u>AND</u>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

PART B

SATISFIED YES ☒ NO ☐

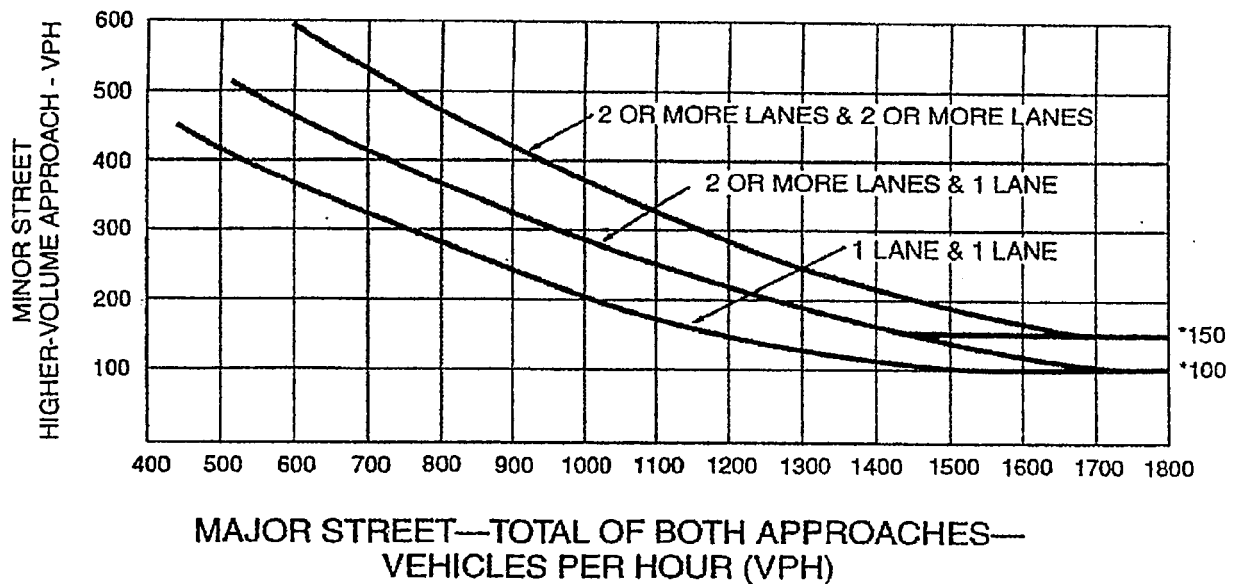
APPROACH LANES	One	2 or More	AM	PM
Both Approaches - Major Street		X	1,348	1,383
Higher Approach - Minor Street		X	182	101

The plotted point falls above the curve in Figure 4C-3.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<u>OR</u> , The plotted point falls above the curve in Figure 4C-4.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Otay Mesa Road/Alta Road - Existing + Unit 1 Conditions

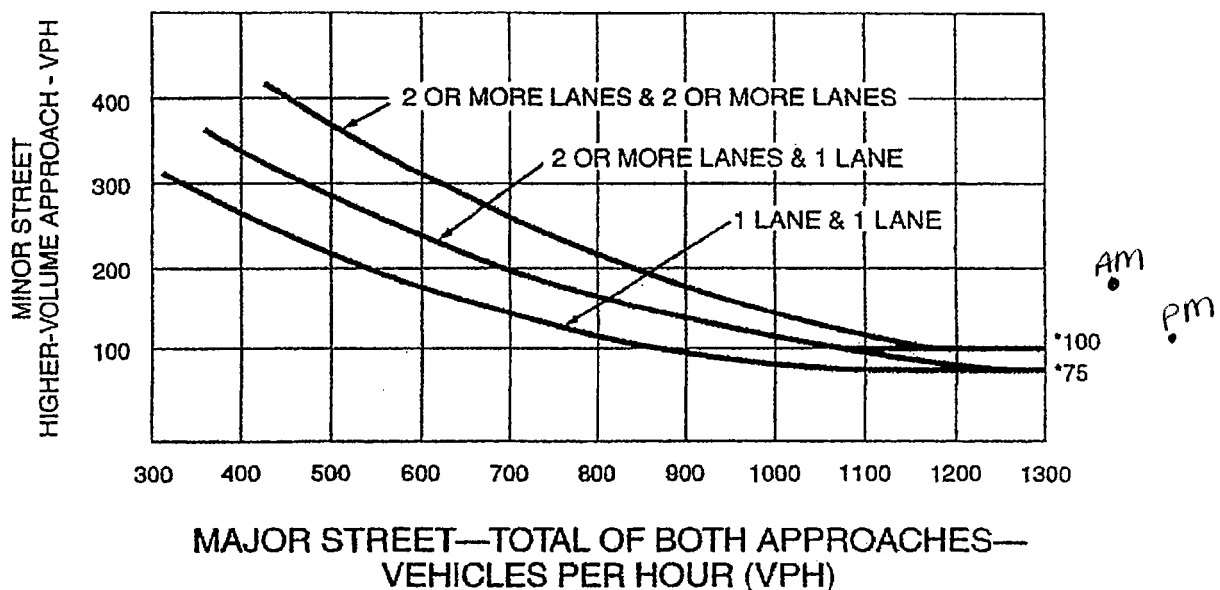
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

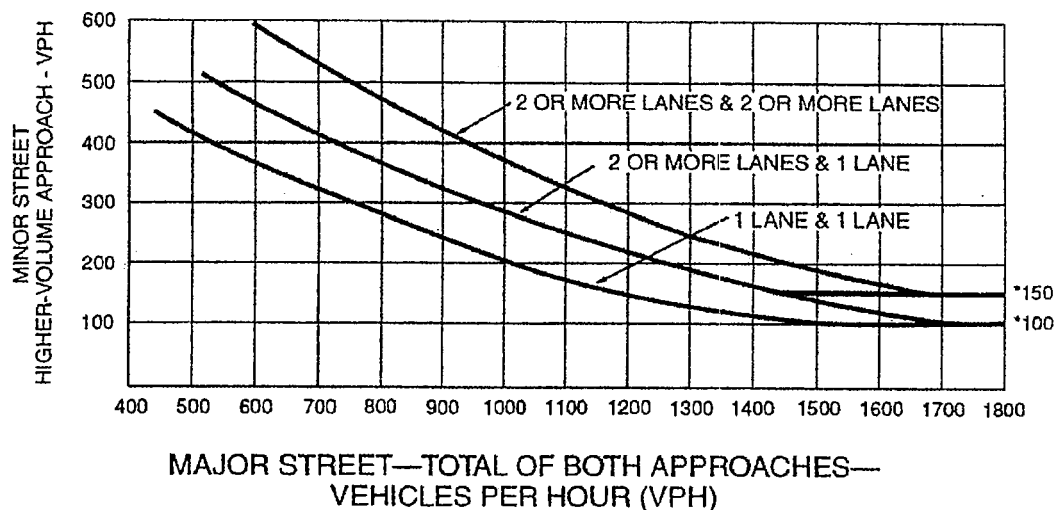
Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

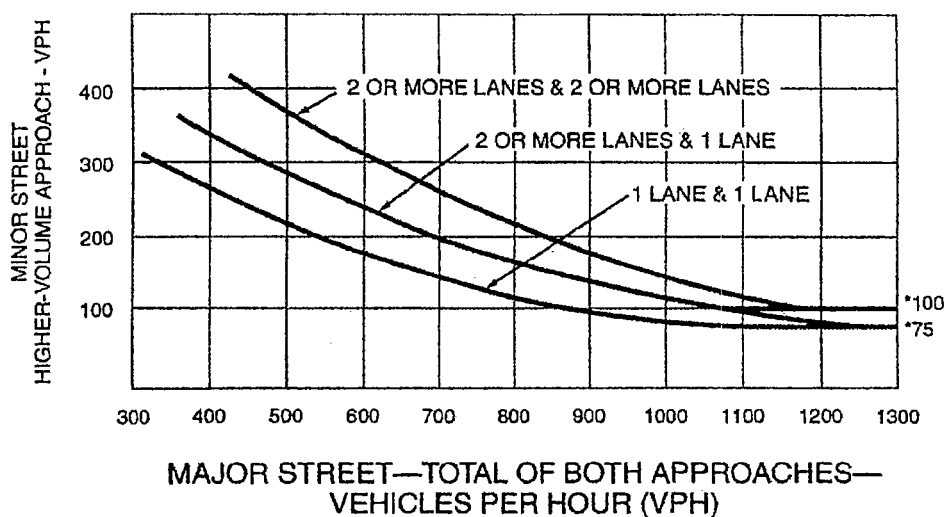
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume

SATISFIED* YES ☐ NO ☐

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	Hour
Both Approaches - Major Street			
Higher Approach - Minor Street			

*All plotted points fall above the curves in Figure 4C-1. (URBAN AREAS)	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<u>OR</u> , All plotted points fall above the curves in Figure 4C-2. (RURAL AREAS)	Yes <input type="checkbox"/>	No <input type="checkbox"/>

WARRANT 3 - Peak Hour
(Part A or Part B must be satisfied)

SATISFIED YES ☒ NO ☐

PART A

SATISFIED YES ☒ NO ☐

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; <u>AND</u>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; <u>AND</u>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

PART B

SATISFIED YES ☒ NO ☐

APPROACH LANES	One	2 or More	AM	PM
Both Approaches - Major Street		X	897	491
Higher Approach - Minor Street	X		158	592

The plotted point falls above the curve in Figure 4C-3.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<u>OR</u> , The plotted point falls above the curve in Figure 4C-4.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

**Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)**

11 SD COUNT DATE _____
DIST CO RTE PM CALC _____ DATE _____
CHK _____ DATE _____
Major St: _____ Alta Road Critical Approach Speed _____ mph
Minor St: _____ Calle Ventner Critical Approach Speed _____ mph

Speed limit or critical speed on major street traffic > 64 km/h (40 mph)..... ☒ }
or
In built up area of isolated community of < 10,000 population..... ☐ } **RURAL (R)**
☐ **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

URBAN..... RURAL..... X		Minimum Requirements EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied _____ Not Satisfied X					
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1..... X	1..... X	8,000	5,600	2,400	1,680
2 or More.....	1.....	9,600	6,720	2,400	1,680
2 or More.....	2 or More.....	9,600	6,720	3,200	2,240
1.....	2 or More.....	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied _____ Not Satisfied X		4,409		2,862	
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1..... X	1..... X	12,000	8,400	1,200	850
2 or More.....	1.....	14,400	10,080	1,200	850
2 or More.....	2 or More.....	14,400	10,080	1,600	1,120
1.....	2 or More.....	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS 80%		2 CONDITIONS 80%	
Satisfied _____ Not Satisfied X					
No one condition satisfied, but following conditions fulfilled 80% or more.....					
No A No B					

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 4)

Airway Rd./Sanyo Av.-Heinrich Hertz Dr. - Cum. 2020 w/ SR-905 [Phases 1A&1B] Conditions

WARRANT 2 - Four Hour Vehicular Volume

SATISFIED* YES ☐ NO ☐

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	Hour
Both Approaches - Major Street			
Higher Approach - Minor Street			

*All plotted points fall above the curves in Figure 4C-1. (URBAN AREAS)	Yes <input type="checkbox"/>	No <input type="checkbox"/>
QR. All plotted points fall above the curves in Figure 4C-2. (RURAL AREAS)	Yes <input type="checkbox"/>	No <input type="checkbox"/>

WARRANT 3 - Peak Hour
(Part A or Part B must be satisfied)

SATISFIED YES ☒ NO ☐

PART A

SATISFIED YES ☒ NO ☐

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

PART B

SATISFIED YES ☒ NO ☐

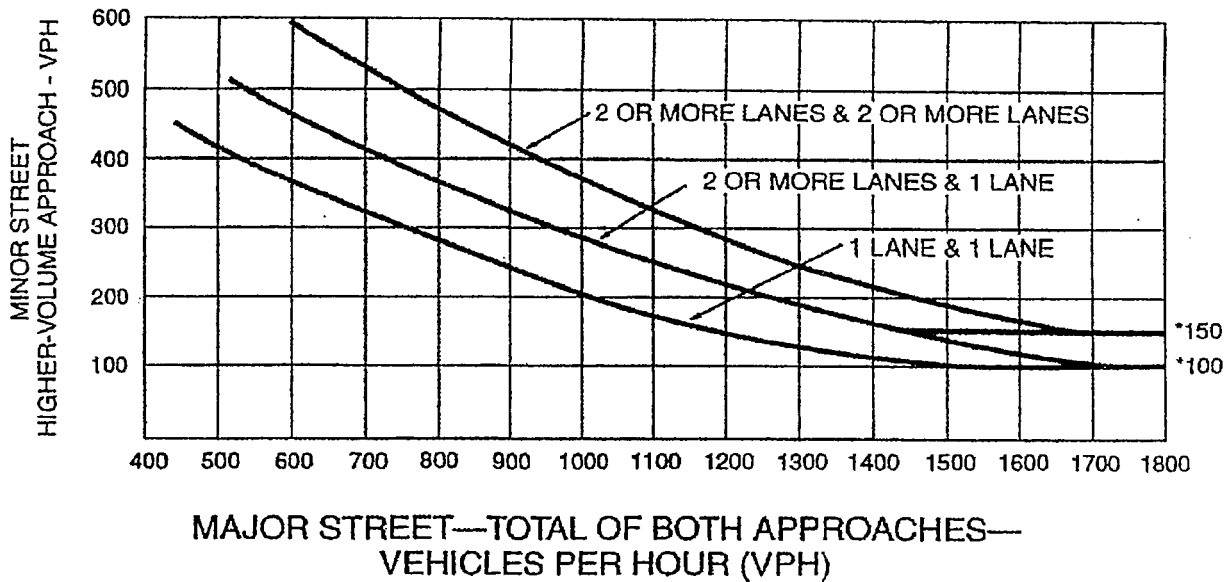
APPROACH LANES	One	2 or More	Hour
Both Approaches - Major Street		X	950 970
Higher Approach - Minor Street		X	250 230

The plotted point falls above the curve in Figure 4C-3.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
QR. The plotted point falls above the curve in Figure 4C-4.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Airway Rd./Sanyo Av.-Heinrich Hertz Dr. - Cum. 2020 w/ SR-905 [Phases 1A&1B] Conditions

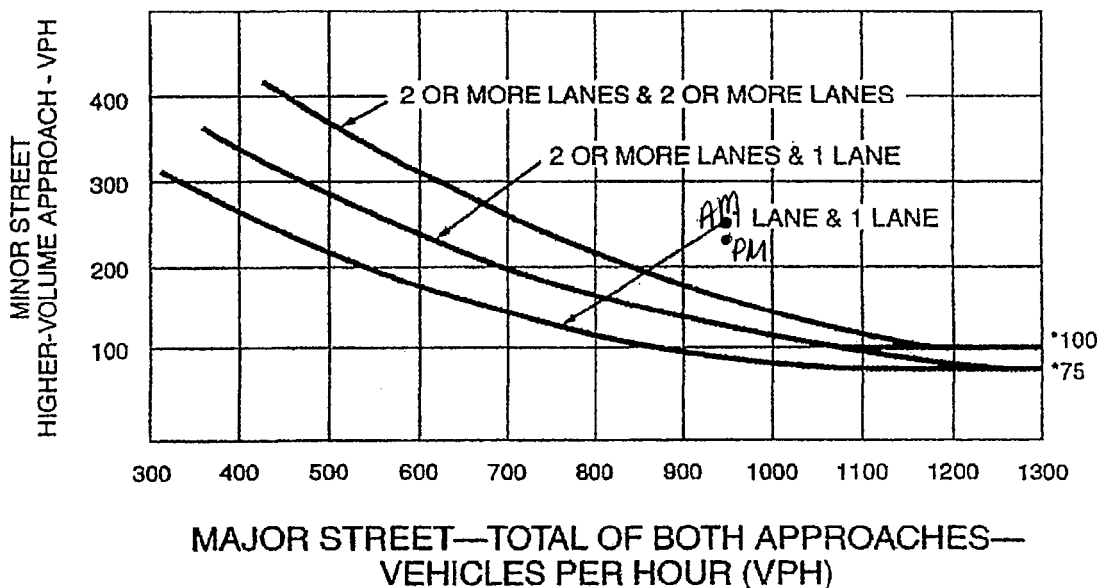
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 4)

Airway Rd./Paseo De Las Americas - Cum. 2020 w/ SR-905 [Phases 1A&1B] Conditions

WARRANT 2 - Four Hour Vehicular Volume

SATISFIED* YES ☐ NO ☐

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	Hour
Both Approaches - Major Street			
Higher Approach - Minor Street			

*All plotted points fall above the curves in Figure 4C-1. (URBAN AREAS)	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<u>OR</u> , All plotted points fall above the curves in Figure 4C-2. (RURAL AREAS)	Yes <input type="checkbox"/>	No <input type="checkbox"/>

WARRANT 3 - Peak Hour
(Part A or Part B must be satisfied)

SATISFIED YES ☒ NO ☐

PART A

SATISFIED YES ☒ NO ☐

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; <u>AND</u>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; <u>AND</u>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

PART B

SATISFIED YES ☒ NO ☐

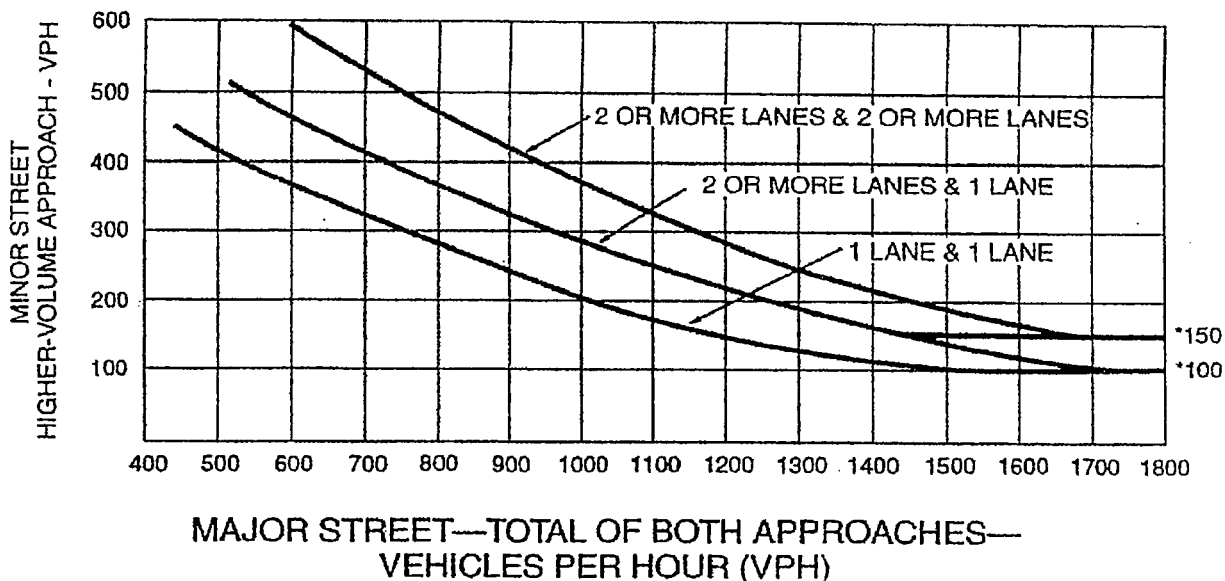
APPROACH LANES	One	2 or More	Hour
Both Approaches - Major Street		X	650 760
Higher Approach - Minor Street		X	570 580

The plotted point falls above the curve in Figure 4C-3.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<u>OR</u> , The plotted point falls above the curve in Figure 4C-4.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Airway Rd./Paseo De Las Americas - Cum. 2020 w/ SR-905 [Phases 1A&1B] Conditions

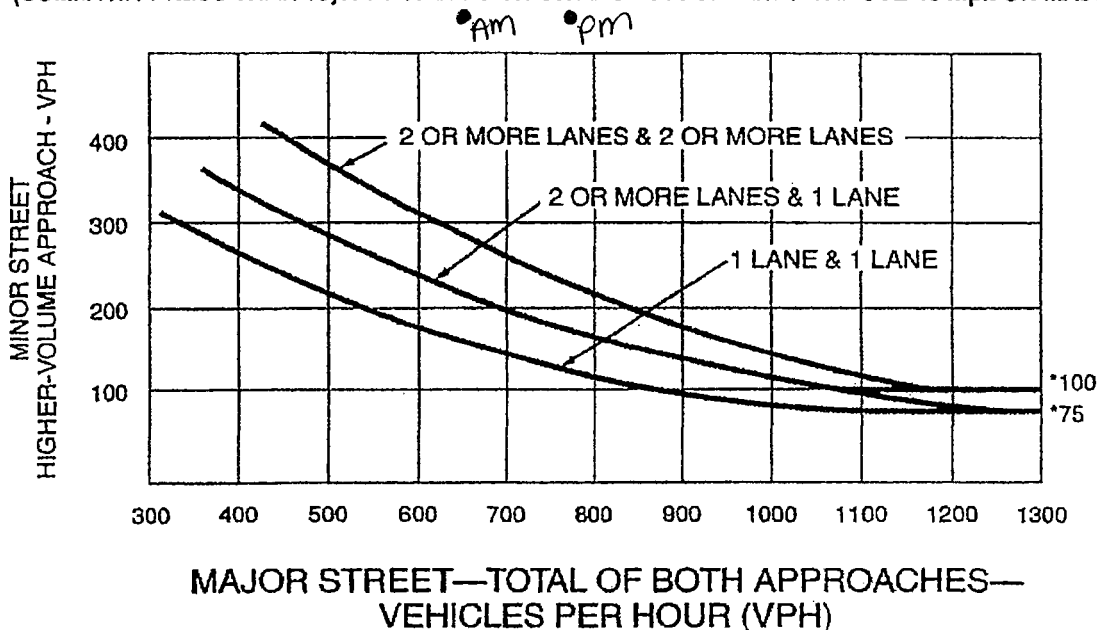
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 4)

Siempre Viva Rd./Michael Faraday Dr. - Cum. (2020) w/ SR-905 [Phases 1A & 1B] Conditions

WARRANT 2 - Four Hour Vehicular Volume

SATISFIED* YES ☐ NO ☐

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	Hour
Both Approaches - Major Street			
Higher Approach - Minor Street			

*All plotted points fall above the curves in Figure 4C-1. (URBAN AREAS)	Yes <input type="checkbox"/>	No <input type="checkbox"/>
OR, All plotted points fall above the curves in Figure 4C-2. (RURAL AREAS)	Yes <input type="checkbox"/>	No <input type="checkbox"/>

WARRANT 3 - Peak Hour
(Part A or Part B must be satisfied)

SATISFIED YES ☒ NO ☐

PART A

SATISFIED YES ☒ NO ☐

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; <u>AND</u>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; <u>AND</u>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

PART B

SATISFIED YES ☒ NO ☐

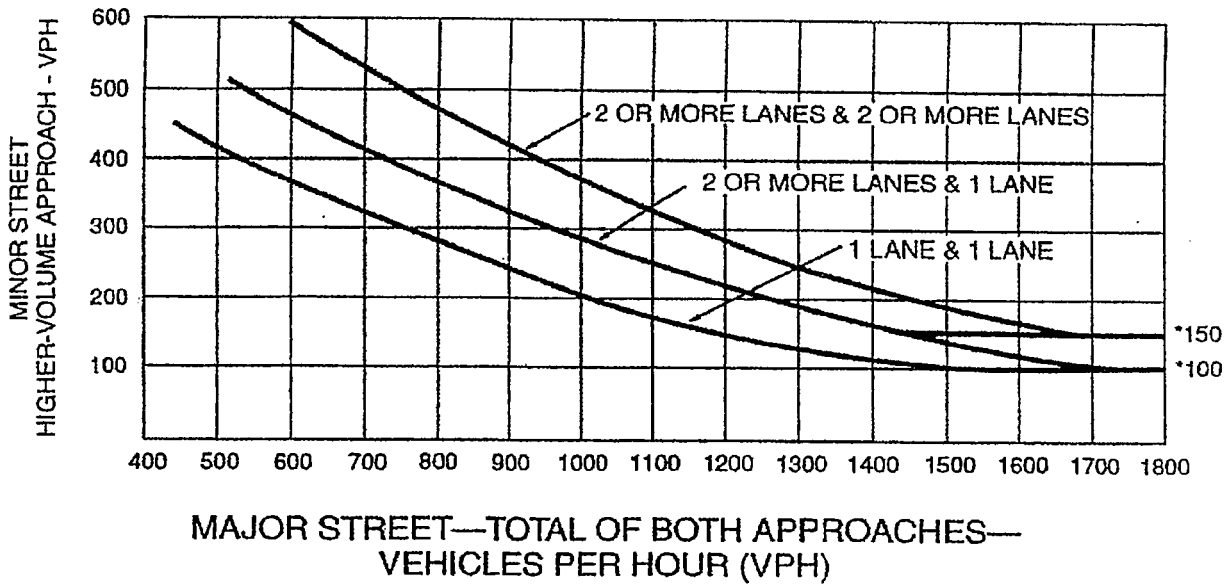
APPROACH LANES	One	2 or More	AM	PM
Both Approaches - Major Street		X	1,700	1,450
Higher Approach - Minor Street	X		130	130

The plotted point falls above the curve in Figure 4C-3.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
OR, The plotted point falls above the curve in Figure 4C-4.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Siempre Viva Rd./Michael Faraday Dr. - Cum. (2020) w/ SR-905 [Phases 1A & 1B] Conditions

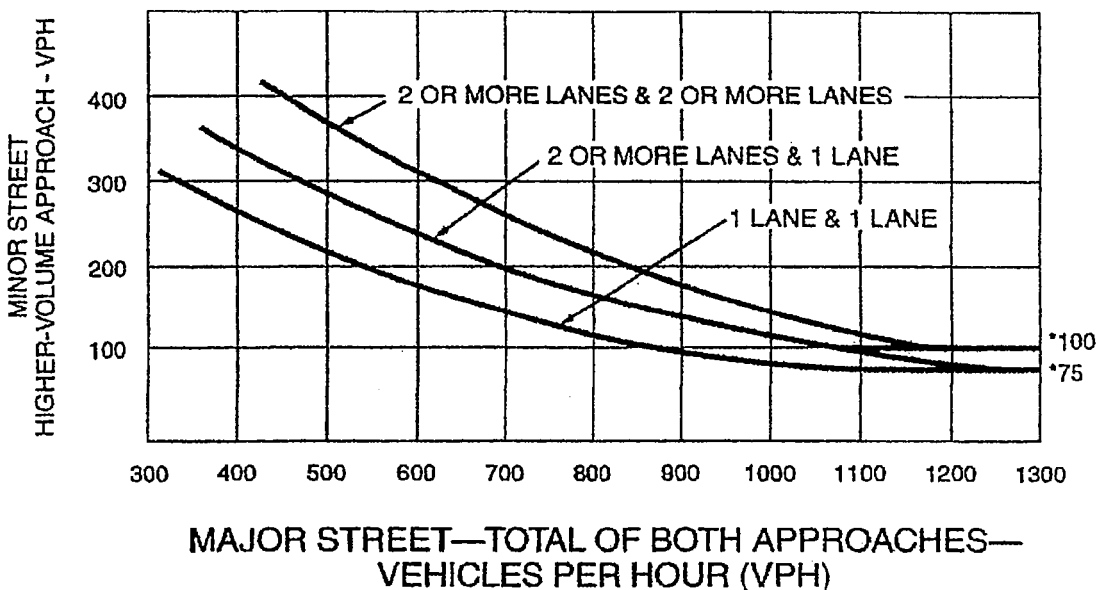
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

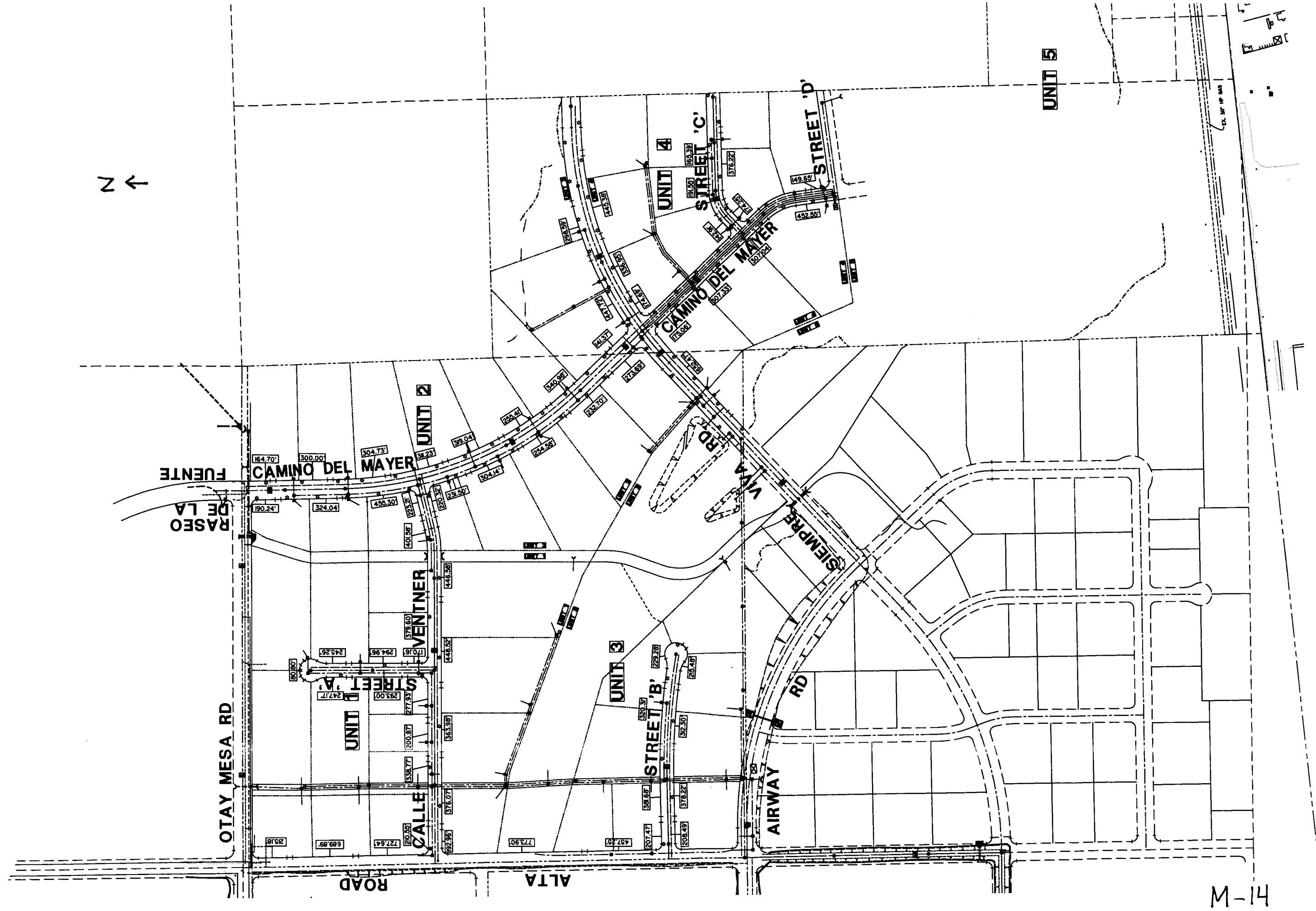
Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 79 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Illustration of Driveway Spacing





















APPENDIX N

➤ Existing + Project – Recommended Mitigation

Existing + Unit 1 – Recommended Mitigation

040501 - Otay Crossings

14: Otay Mesa Road & Alta Rd.
Mitigation - Ex + Otay Crossings - Unit 1- AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frts		0.850									0.868	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	1583	0	0	1863	0	3433	1863	0	0	1617	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	1583	0	0	1863	0	3433	1863	0	0	1617	0
Satd. Flow (RTOR)		1080									183	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	652	0	696	0	0	0	182	1	0	0	4	168
Adj. Flow (vph)	709	0	757	0	0	0	198	1	0	0	4	183
Lane Group Flow (vph)	709	757	0	0	0	0	198	1	0	0	187	0
Turn Type	Split			Split			Split			Split		
Protected Phases	4	4		8	8		2	2		6	6	
Permitted Phases												
Total Split (s)	43.0	43.0	0.0	20.5	20.5	0.0	21.0	21.0	0.0	20.5	20.5	0.0
Act Effct Green (s)	30.2	30.2					54.7	54.7			8.1	
Actuated g/C Ratio	0.29	0.29					0.52	0.52			0.08	
v/c Ratio	0.72	0.62					0.11	0.00			0.64	
Control Delay	37.4	2.3					15.1	18.0			17.5	
Queue Delay	0.0	0.0					0.0	0.0			0.0	
Total Delay	37.4	2.3					15.1	18.0			17.5	
LOS	D	A					B	B			B	
Approach Delay		19.3						15.1			17.5	
Approach LOS		B						B			B	

Intersection Summary

Cycle Length: 105

Actuated Cycle Length: 105

Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 18.6





Intersection LOS: B

Intersection Capacity Utilization 68.9%

ICU Level of Service C




















Analysis Period (min) 15

Splits and Phases: 14: Otay Mesa Road & Alta Rd.

			
ø2	ø6	ø4	ø8
21 s	20.5 s	43 s	20.5 s

040501 - Otay Crossings

14: Otay Mesa Road & Alta Rd
Mitigation - Ex + Otay Crossings - Unit 1- PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt		0.850									0.865	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	1583	0	0	1863	0	3433	1863	0	0	1611	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	1583	0	0	1863	0	3433	1863	0	0	1611	0
Satd. Flow (RTOR)		322									639	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	101	1	280	0	0	0	656	0	0	0	1	726
Adj. Flow (vph)	116	1	322	0	0	0	754	0	0	0	1	834
Lane Group Flow (vph)	116	323	0	0	0	0	754	0	0	0	835	0
Turn Type	Split			Split			Split			Split		
Protected Phases	4	4		8	8		2	2		6	6	
Permitted Phases												
Total Split (s)	20.5	20.5	0.0	20.5	20.5	0.0	28.0	28.0	0.0	21.0	21.0	0.0
Act Effct Green (s)	10.0	10.0					50.1				17.9	
Actuated g/C Ratio	0.11	0.11					0.56				0.20	
v/c Ratio	0.31	0.70					0.39				1.00	
Control Delay	37.8	13.1					12.4				42.7	
Queue Delay	0.0	0.0					0.0				0.0	
Total Delay	37.8	13.1					12.4				42.7	
LOS	D	B					B				D	
Approach Delay		19.6									42.7	
Approach LOS		B									D	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 26.5





Intersection LOS: C

Intersection Capacity Utilization 91.1%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 14: Otay Mesa Road & Alta Rd

			
ø2	ø6	ø4	ø8
28 s	21 s	20.5 s	20.5 s

Existing + Units 1-2 – Recommended Mitigation

040501 - Otay Crossings

10: Otay Mesa Road & Sanyo Ave
Mitigation - Ex + Otay Crossings - Units 1-2- AM

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↖↗	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	0.95	0.97	0.95
Frt	0.984				0.965	
Flt Protected			0.950		0.963	
Satd. Flow (prot)	3483	0	1770	3539	3358	0
Flt Permitted			0.950		0.963	
Satd. Flow (perm)	3483	0	1770	3539	3358	0
Satd. Flow (RTOR)	19				12	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1635	200	24	505	32	10
Adj. Flow (vph)	2044	250	30	631	40	12
Lane Group Flow (vph)	2294	0	30	631	52	0
Turn Type			Prot			
Protected Phases	2		1	6	3	
Permitted Phases						
Total Split (s)	45.2	0.0	21.5	66.7	23.3	0.0
Act Effct Green (s)	75.5		7.4	80.7	7.0	
Actuated g/C Ratio	0.84		0.08	0.90	0.08	
v/c Ratio	0.78		0.21	0.20	0.19	
Control Delay	7.5		41.4	1.3	33.1	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	7.5		41.4	1.3	33.1	
LOS	A		D	A	C	
Approach Delay	7.5			3.1	33.1	
Approach LOS	A			A	C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 7.0

Intersection LOS: A

Intersection Capacity Utilization 61.6%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

↙ ø1	→ ø2	↖ ø3
21.5 s	45.2 s	23.3 s
← ø6		
66.7 s		

040501 - Otay Crossings

10: Otay Mesa Road & Sanyo Ave
Mitigation - Ex + Otay Crossings - Units 1-2- PM

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↖↗	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	0.95	0.97	0.95
Frt	0.987				0.996	
Flt Protected			0.950		0.954	
Satd. Flow (prot)	3493	0	1770	3539	3434	0
Flt Permitted			0.950		0.954	
Satd. Flow (perm)	3493	0	1770	3539	3434	0
Satd. Flow (RTOR)	16				3	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	559	54	12	1670	185	5
Adj. Flow (vph)	690	67	15	2062	228	6
Lane Group Flow (vph)	757	0	15	2062	234	0
Turn Type			Prot			
Protected Phases	2		1	6	3	
Permitted Phases						
Total Split (s)	48.4	0.0	17.5	65.9	24.1	0.0
Act Effct Green (s)	68.0		6.7	70.4	11.6	
Actuated g/C Ratio	0.76		0.07	0.78	0.13	
v/c Ratio	0.29		0.11	0.74	0.53	
Control Delay	13.6		40.4	7.6	40.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	13.6		40.4	7.6	40.2	
LOS	B		D	A	D	
Approach Delay	13.6			7.9	40.2	
Approach LOS	B			A	D	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 11.7

Intersection LOS: B

Intersection Capacity Utilization 58.3%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

↙ ø1	→ ø2	↖ ø3
17.5 s	48.4 s	24.1 s
← ø6		
65.9 s		

040501 - Otay Crossings

13: Otay Mesa Road & Enrico Fermi Dr
Mitigation - Ex + Otay Crossings - Units 1-2- AM

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Fr _t	0.999					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3536	0	1770	3539	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3536	0	1770	3539	1770	1583
Satd. Flow (RTOR)	1					215
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1679	11	43	392	55	183
Adj. Flow (vph)	1975	13	51	461	65	215
Lane Group Flow (vph)	1988	0	51	461	65	215
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	65.5	0.0	21.0	86.5	33.5	33.5
Act Effct Green (s)	62.3		8.5	70.0	9.3	9.3
Actuated g/C Ratio	0.71		0.09	0.80	0.11	0.11
v/c Ratio	0.79		0.31	0.16	0.34	0.60
Control Delay	13.9		44.5	2.3	43.1	13.1
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	13.9		44.5	2.3	43.1	13.1
LOS	B		D	A	D	B
Approach Delay	13.9			6.5	20.1	
Approach LOS	B			A	C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 87.4

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 13.1

Intersection LOS: B

Intersection Capacity Utilization 64.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

↙ ø1	→ ø2	
21 s	65.5 s	
← ø6		↖ ø8
86.5 s		33.5 s

040501 - Otay Crossings

13: Otay Mesa Road & Enrico Fermi Rd
Mitigation - Ex + Otay Crossings - Units 1-2- PM

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.999					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3536	0	1770	3539	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3536	0	1770	3539	1770	1583
Satd. Flow (RTOR)	1					87
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	543	4	167	709	36	80
Adj. Flow (vph)	590	4	182	771	39	87
Lane Group Flow (vph)	594	0	182	771	39	87
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	60.3	0.0	25.2	85.5	34.5	34.5
Act Effct Green (s)	13.3		10.2	24.4	7.6	7.6
Actuated g/C Ratio	0.33		0.24	0.60	0.19	0.19
v/c Ratio	0.51		0.43	0.36	0.12	0.24
Control Delay	14.1		18.6	4.2	19.1	7.7
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	14.1		18.6	4.2	19.1	7.7
LOS	B		B	A	B	A
Approach Delay	14.1			6.9	11.2	
Approach LOS	B			A	B	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 40.8

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.51

Intersection Signal Delay: 9.8

Intersection LOS: A

Intersection Capacity Utilization 37.7%

ICU Level of Service A





















Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Rd

↘ ø1	→ ø2	
25.2 s	60.3 s	
← ø6		↖ ø8
85.5 s		34.5 s

040501 - Otay Crossings

14: Otay Mesa Road & Alta Rd.
Mitigation - Ex + Otay Crossings - Units 1-2- AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	0.95	0.97	1.00	1.00	1.00	0.95	0.95
Frts			0.850								0.856	0.850
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	1863	1583	0	3539	0	3433	1863	0	0	1515	1504
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	1863	1583	0	3539	0	3433	1863	0	0	1515	1504
Satd. Flow (RTOR)			512								91	92
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	652	731	625	0	193	0	154	1	0	0	4	168
Adj. Flow (vph)	709	795	679	0	210	0	167	1	0	0	4	183
Lane Group Flow (vph)	709	795	679	0	210	0	167	1	0	0	95	92
Turn Type	Split		Perm	Split			Split			Split		Perm
Protected Phases	4	4		8	8		2	2		6	6	
Permitted Phases			4									6
Total Split (s)	28.0	28.0	28.0	20.5	20.5	0.0	21.0	21.0	0.0	20.5	20.5	20.5
Act Effct Green (s)	40.0	40.0	40.0		10.9		15.6	15.6			7.4	7.4
Actuated g/C Ratio	0.44	0.44	0.44		0.12		0.17	0.17			0.08	0.08
v/c Ratio	0.46	0.96	0.69		0.49		0.28	0.00			0.46	0.44
Control Delay	19.5	49.7	9.4		40.5		33.9	31.0			16.7	15.5
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0			0.0	0.0
Total Delay	19.5	49.7	9.4		40.5		33.9	31.0			16.7	15.5
LOS	B	D	A		D		C	C			B	B
Approach Delay		27.3			40.5			33.8			16.1	
Approach LOS		C			D			C			B	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 28.0





Intersection LOS: C

Intersection Capacity Utilization 64.9%

ICU Level of Service C





















Analysis Period (min) 15

Splits and Phases: 14: Otay Mesa Road & Alta Rd.

			
ø2	ø6	ø4	ø8
21 s	20.5 s	28 s	20.5 s

040501 - Otay Crossings

14: Otay Mesa Road & Alta Rd
Mitigation - Ex + Otay Crossings - Units 1-2- PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	0.95	0.97	1.00	1.00	1.00	0.95	0.95
Fr't			0.850								0.850	0.850
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	1863	1583	0	3539	0	3433	1863	0	0	1504	1504
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	1863	1583	0	3539	0	3433	1863	0	0	1504	1504
Satd. Flow (RTOR)			279								339	339
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	101	295	251	0	723	0	552	0	0	0	1	726
Adj. Flow (vph)	112	328	279	0	803	0	613	0	0	0	1	807
Lane Group Flow (vph)	112	328	279	0	803	0	613	0	0	0	404	404
Turn Type	Split		Perm	Split			Split			Split		Perm
Protected Phases	4	4		8	8		2	2		6	6	
Permitted Phases			4									6
Total Split (s)	25.0	25.0	25.0	30.0	30.0	0.0	27.0	27.0	0.0	23.0	23.0	23.0
Act Effct Green (s)	22.1	22.1	22.1		26.4		27.7				12.8	12.8
Actuated g/C Ratio	0.21	0.21	0.21		0.25		0.26				0.12	0.12
v/c Ratio	0.15	0.83	0.50		0.90		0.68				0.84	0.84
Control Delay	34.3	59.2	7.9		53.0		40.7				24.6	24.6
Queue Delay	0.0	0.0	0.0		0.0		0.0				0.0	0.0
Total Delay	34.3	59.2	7.9		53.0		40.7				24.6	24.6
LOS	C	E	A		D		D				C	C
Approach Delay		35.4			53.0						24.6	
Approach LOS		D			D						C	

Intersection Summary

Cycle Length: 105

Actuated Cycle Length: 105

Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 38.3





Intersection LOS: D

Intersection Capacity Utilization 79.6%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 14: Otay Mesa Road & Alta Rd

 ø2	 ø6	 ø4	 ø8
27 s	23 s	25 s	30 s

Existing + Units 1-3 – Recommended Mitigation

040501 - Otay Crossings

10: Otay Mesa Road & Sanyo Ave
Mitigation - Ex + Otay Crossings - Units 1-3- AM

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↖↗	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	0.95	0.97	0.95
Fr't	0.986				0.965	
Flt Protected			0.950		0.963	
Satd. Flow (prot)	3490	0	1770	3539	3358	0
Flt Permitted			0.950		0.963	
Satd. Flow (perm)	3490	0	1770	3539	3358	0
Satd. Flow (RTOR)	16				12	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1925	200	24	606	32	10
Adj. Flow (vph)	2406	250	30	758	40	12
Lane Group Flow (vph)	2656	0	30	758	52	0
Turn Type			Prot			
Protected Phases	2		1	6	3	
Permitted Phases						
Total Split (s)	45.2	0.0	21.5	66.7	23.3	0.0
Act Effct Green (s)	75.5		7.4	80.7	7.0	
Actuated g/C Ratio	0.84		0.08	0.90	0.08	
v/c Ratio	0.91		0.21	0.24	0.19	
Control Delay	9.5		41.4	1.4	33.1	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	9.5		41.4	1.4	33.1	
LOS	A		D	A	C	
Approach Delay	9.5			2.9	33.1	
Approach LOS	A			A	C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 8.4

Intersection LOS: A

Intersection Capacity Utilization 69.6%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

↙ ø1	→ ø2	↖ ø3
21.5 s	45.2 s	23.3 s
← ø6		
66.7 s		

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↖↗	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	0.95	0.97	0.95
Frt	0.989				0.996	
Flt Protected			0.950		0.954	
Satd. Flow (prot)	3500	0	1770	3539	3434	0
Flt Permitted			0.950		0.954	
Satd. Flow (perm)	3500	0	1770	3539	3434	0
Satd. Flow (RTOR)	13				3	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	692	54	12	1946	185	5
Adj. Flow (vph)	854	67	15	2402	228	6
Lane Group Flow (vph)	921	0	15	2402	234	0
Turn Type			Prot			
Protected Phases	2		1	6	3	
Permitted Phases						
Total Split (s)	48.4	0.0	17.5	65.9	24.1	0.0
Act Effct Green (s)	68.0		6.7	70.4	11.6	
Actuated g/C Ratio	0.76		0.07	0.78	0.13	
v/c Ratio	0.35		0.11	0.87	0.53	
Control Delay	1.6		40.4	11.9	40.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	1.6		40.4	11.9	40.2	
LOS	A		D	B	D	
Approach Delay	1.6			12.1	40.2	
Approach LOS	A			B	D	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 11.2

Intersection LOS: B

Intersection Capacity Utilization 65.9%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

↙ ø1	→ ø2	↖ ø3
17.5 s	48.4 s	24.1 s
← ø6		
65.9 s		

040501 - Otay Crossings

13: Otay Mesa Road & Enrico Fermi Dr
Mitigation - Ex + Otay Crossings - Units 1-3- AM

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Fr _t	0.999					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3536	0	1770	3539	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3536	0	1770	3539	1770	1583
Satd. Flow (RTOR)	1					234
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1969	11	54	493	55	216
Adj. Flow (vph)	2316	13	64	580	65	254
Lane Group Flow (vph)	2329	0	64	580	65	254
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	65.5	0.0	21.0	86.5	33.5	33.5
Act Effct Green (s)	62.2		9.2	73.0	9.8	9.8
Actuated g/C Ratio	0.68		0.10	0.80	0.11	0.11
v/c Ratio	0.96		0.37	0.20	0.34	0.67
Control Delay	28.0		46.0	2.5	43.6	16.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	28.0		46.0	2.5	43.6	16.5
LOS	C		D	A	D	B
Approach Delay	28.0			6.9	22.0	
Approach LOS	C			A	C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 90.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 23.3

Intersection LOS: C

Intersection Capacity Utilization 74.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

↙ ø1	→ ø2	
21 s	65.5 s	
← ø6		↖ ø8
86.5 s		33.5 s

040501 - Otay Crossings

13: Otay Mesa Road & Enrico Fermi Rd
Mitigation - Ex + Otay Crossings - Units 1-3- PM

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.999					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3536	0	1770	3539	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3536	0	1770	3539	1770	1583
Satd. Flow (RTOR)	1					103
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	676	4	198	1985	36	95
Adj. Flow (vph)	735	4	215	2158	39	103
Lane Group Flow (vph)	739	0	215	2158	39	103
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	60.3	0.0	25.2	85.5	34.5	34.5
Act Effct Green (s)	36.0		13.3	50.2	8.0	8.0
Actuated g/C Ratio	0.54		0.19	0.75	0.12	0.12
v/c Ratio	0.39		0.63	0.81	0.18	0.37
Control Delay	11.0		36.8	7.9	35.9	12.8
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	11.0		36.8	7.9	35.9	12.8
LOS	B		D	A	D	B
Approach Delay	11.0			10.5	19.1	
Approach LOS	B			B	B	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 67

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 11.0

Intersection LOS: B

Intersection Capacity Utilization 64.9%

ICU Level of Service C





















Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Rd

↙ ø1	→ ø2	
25.2 s	60.3 s	
← ø6		↘ ø8
85.5 s		34.5 s

040501 - Otay Crossings

14: Otay Mesa Road & Alta Rd.
Mitigation - Ex + Otay Crossings - Units 1-3- AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	0.95	0.97	1.00	1.00	1.00	0.95	0.95
Frnt			0.850								0.856	0.850
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	1863	1583	0	3539	0	3433	1863	0	0	1515	1504
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	1863	1583	0	3539	0	3433	1863	0	0	1515	1504
Satd. Flow (RTOR)			740								91	92
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	652	752	927	0	211	0	248	1	0	0	4	168
Adj. Flow (vph)	709	817	1008	0	229	0	270	1	0	0	4	183
Lane Group Flow (vph)	709	817	1008	0	229	0	270	1	0	0	95	92
Turn Type	Split		Perm	Split			Split			Split		Perm
Protected Phases	4	4		8	8		2	2		6	6	
Permitted Phases			4									6
Total Split (s)	28.0	28.0	28.0	20.5	20.5	0.0	21.0	21.0	0.0	20.5	20.5	20.5
Act Effct Green (s)	37.5	37.5	37.5		11.4		17.7	17.7			7.4	7.4
Actuated g/C Ratio	0.42	0.42	0.42		0.13		0.20	0.20			0.08	0.08
v/c Ratio	0.50	1.05	0.92		0.51		0.40	0.00			0.46	0.44
Control Delay	21.7	75.9	22.7		40.5		32.5	29.0			16.7	15.5
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0			0.0	0.0
Total Delay	21.7	75.9	22.7		40.5		32.5	29.0			16.7	15.5
LOS	C	E	C		D		C	C			B	B
Approach Delay		39.6			40.5			32.5			16.1	
Approach LOS		D			D			C			B	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.05

Intersection Signal Delay: 37.7





Intersection LOS: D

Intersection Capacity Utilization 76.9%

ICU Level of Service D





















Analysis Period (min) 15

Splits and Phases: 14: Otay Mesa Road & Alta Rd.

			
ø2	ø6	ø4	ø8
21 s	20.5 s	28 s	20.5 s

040501 - Otay Crossings

14: Otay Mesa Road & Alta Rd
Mitigation - Ex + Otay Crossings - Units 1-3- PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	0.95	0.97	1.00	1.00	1.00	0.95	0.95
Fr't			0.850								0.850	0.850
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	1863	1583	0	3539	0	3433	1863	0	0	1504	1504
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	1863	1583	0	3539	0	3433	1863	0	0	1504	1504
Satd. Flow (RTOR)			413								336	336
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	101	322	372	0	703	0	879	0	0	0	1	726
Adj. Flow (vph)	112	358	413	0	781	0	977	0	0	0	1	807
Lane Group Flow (vph)	112	358	413	0	781	0	977	0	0	0	404	404
Turn Type	Split		Perm	Split			Split			Split		Perm
Protected Phases	4	4		8	8		2	2		6	6	
Permitted Phases			4									6
Total Split (s)	26.0	26.0	26.0	24.3	24.3	0.0	34.2	34.2	0.0	20.5	20.5	20.5
Act Effct Green (s)	23.3	23.3	23.3		23.2		30.2				12.3	12.3
Actuated g/C Ratio	0.22	0.22	0.22		0.22		0.29				0.12	0.12
v/c Ratio	0.15	0.86	0.61		1.00		0.99				0.85	0.85
Control Delay	33.6	61.4	8.0		74.5		64.3				27.0	27.0
Queue Delay	0.0	0.0	0.0		0.0		0.0				0.0	0.0
Total Delay	33.6	61.4	8.0		74.5		64.3				27.0	27.0
LOS	C	E	A		E		E				C	C
Approach Delay		32.9			74.5						27.0	
Approach LOS		C			E						C	

Intersection Summary

Cycle Length: 105

Actuated Cycle Length: 105

Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 49.8





Intersection LOS: D

Intersection Capacity Utilization 89.8%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 14: Otay Mesa Road & Alta Rd

			
ø2	ø6	ø4	ø8
34.2 s	20.5 s	26 s	24.3 s

Existing + Units 1-4 – Recommended Mitigation

040501 - Otay Crossings

10: Otay Mesa Road & Sanyo Ave
Mitigation - Ex + Otay Crossings - Units 1-4- AM

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↖↖	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	0.95	0.97	0.95
Frt	0.988				0.965	
Flt Protected			0.950		0.963	
Satd. Flow (prot)	3497	0	1770	3539	3358	0
Flt Permitted			0.950		0.963	
Satd. Flow (perm)	3497	0	1770	3539	3358	0
Satd. Flow (RTOR)	14				12	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	2226	200	24	680	32	10
Adj. Flow (vph)	2782	250	30	850	40	12
Lane Group Flow (vph)	3032	0	30	850	52	0
Turn Type			Prot			
Protected Phases	2		1	6	3	
Permitted Phases						
Total Split (s)	45.2	0.0	21.5	66.7	23.3	0.0
Act Effct Green (s)	75.5		7.4	80.7	7.0	
Actuated g/C Ratio	0.84		0.08	0.90	0.08	
v/c Ratio	1.03		0.21	0.27	0.19	
Control Delay	28.8		41.4	1.5	33.1	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	28.8		41.4	1.5	33.1	
LOS	C		D	A	C	
Approach Delay	28.8			2.8	33.1	
Approach LOS	C			A	C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 23.1

Intersection LOS: C

Intersection Capacity Utilization 77.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

↙ ø1	→ ø2	↖ ø3
21.5 s	45.2 s	23.3 s
← ø6		
66.7 s		

040501 - Otay Crossings

10: Otay Mesa Road & Sanyo Ave
Mitigation - Ex + Otay Crossings - Units 1-4- PM

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↖↗	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	0.95	0.97	0.95
Frt	0.991				0.996	
Flt Protected			0.950		0.954	
Satd. Flow (prot)	3507	0	1770	3539	3434	0
Flt Permitted			0.950		0.954	
Satd. Flow (perm)	3507	0	1770	3539	3434	0
Satd. Flow (RTOR)	11				3	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	813	54	12	2228	185	5
Adj. Flow (vph)	1004	67	15	2751	228	6
Lane Group Flow (vph)	1071	0	15	2751	234	0
Turn Type			Prot			
Protected Phases	2		1	6	3	
Permitted Phases						
Total Split (s)	48.4	0.0	17.5	65.9	24.1	0.0
Act Effct Green (s)	68.0		6.7	70.4	11.6	
Actuated g/C Ratio	0.76		0.07	0.78	0.13	
v/c Ratio	0.40		0.11	0.99	0.53	
Control Delay	13.7		40.4	27.0	40.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	13.7		40.4	27.0	40.2	
LOS	B		D	C	D	
Approach Delay	13.7			27.0	40.2	
Approach LOS	B			C	D	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 24.3

Intersection LOS: C

Intersection Capacity Utilization 73.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

↙ ø1	→ ø2	↖ ø3
17.5 s	48.4 s	24.1 s
← ø6		
65.9 s		

040501 - Otay Crossings

13: Otay Mesa Road & Enrico Fermi Dr
Mitigation - Ex + Otay Crossings - Units 1-4- AM

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘	↑
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1583	1770	3539	3433	1583
Satd. Flow (RTOR)		637				56
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1525	756	37	342	280	48
Adj. Flow (vph)	1794	889	44	402	329	56
Lane Group Flow (vph)	1794	889	44	402	329	56
Turn Type		Perm	Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Total Split (s)	65.5	65.5	21.0	86.5	33.5	33.5
Act Effct Green (s)	56.3	56.3	8.3	63.4	14.0	14.0
Actuated g/C Ratio	0.66	0.66	0.09	0.74	0.16	0.16
v/c Ratio	0.77	0.71	0.27	0.15	0.59	0.18
Control Delay	15.5	6.8	46.2	3.6	40.2	11.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.5	6.8	46.2	3.6	40.2	11.6
LOS	B	A	D	A	D	B
Approach Delay	12.6			7.8	36.0	
Approach LOS	B			A	D	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 85.8

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 14.6

Intersection Capacity Utilization 56.8%

Analysis Period (min) 15

Intersection LOS: B

ICU Level of Service B

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

↙ ø1	→ ø2	
21 s	65.5 s	
← ø6		↖ ø8
86.5 s		33.5 s

040501 - Otay Crossings

13: Otay Mesa Road & Enrico Fermi Rd
Mitigation - Ex + Otay Crossings - Units 1-4- PM

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	↑
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Fr't		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1583	1770	3539	3433	1583
Satd. Flow (RTOR)		337				26
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	492	310	140	1468	835	26
Adj. Flow (vph)	535	337	152	1596	908	28
Lane Group Flow (vph)	535	337	152	1596	908	28
Turn Type		Perm	Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Total Split (s)	60.3	60.3	25.2	85.5	34.5	34.5
Act Effct Green (s)	31.9	31.9	12.7	45.9	31.0	31.0
Actuated g/C Ratio	0.38	0.38	0.15	0.54	0.36	0.36
v/c Ratio	0.40	0.42	0.59	0.84	0.73	0.05
Control Delay	21.6	4.1	45.0	20.5	29.7	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.6	4.1	45.0	20.5	29.7	10.2
LOS	C	A	D	C	C	B
Approach Delay	14.8			22.6	29.2	
Approach LOS	B			C	C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 85

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 22.4

Intersection Capacity Utilization 71.1%

Analysis Period (min) 15

Intersection LOS: C





















ICU Level of Service C

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Rd

↙ ø1	→ ø2	
25.2 s	60.3 s	
← ø6		↖ ø8
85.5 s		34.5 s

040501 - Otay Crossings

14: Otay Mesa Road & Alta Rd.
Mitigation - Ex + Otay Crossings - Units 1-4- AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	0.95	0.97	1.00	1.00	1.00	0.95	0.95
Frnt			0.850								0.856	0.850
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	1863	1583	0	3539	0	3433	1863	0	0	1515	1504
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	1863	1583	0	3539	0	3433	1863	0	0	1515	1504
Satd. Flow (RTOR)			735								91	92
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	652	391	676	0	96	0	196	1	0	0	4	168
Adj. Flow (vph)	709	425	735	0	104	0	213	1	0	0	4	183
Lane Group Flow (vph)	709	425	735	0	104	0	213	1	0	0	95	92
Turn Type	Split		Perm	Split			Split			Split		Perm
Protected Phases	4	4		8	8		2	2		6	6	
Permitted Phases			4									6
Total Split (s)	28.0	28.0	28.0	20.5	20.5	0.0	21.0	21.0	0.0	20.5	20.5	20.5
Act Effct Green (s)	31.5	31.5	31.5		8.4		28.7	28.7			7.4	7.4
Actuated g/C Ratio	0.35	0.35	0.35		0.09		0.32	0.32			0.08	0.08
v/c Ratio	0.59	0.65	0.71		0.32		0.19	0.00			0.46	0.44
Control Delay	25.8	29.3	6.1		40.2		26.3	27.0			16.7	15.5
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0			0.0	0.0
Total Delay	25.8	29.3	6.1		40.2		26.3	27.0			16.7	15.5
LOS	C	C	A		D		C	C			B	B
Approach Delay		18.8			40.2			26.3			16.1	
Approach LOS		B			D			C			B	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 20.2



Intersection LOS: C

Intersection Capacity Utilization 58.9%

ICU Level of Service B





















Analysis Period (min) 15

Splits and Phases: 14: Otay Mesa Road & Alta Rd.

			
ø2	ø6	ø4	ø8
21 s	20.5 s	28 s	20.5 s

040501 - Otay Crossings

14: Otay Mesa Road & Alta Rd
Mitigation - Ex + Otay Crossings - Units 1-4- PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	0.95	0.97	1.00	1.00	1.00	0.95	0.95
Frt			0.850								0.850	0.850
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	1863	1583	0	3539	0	3433	1863	0	0	1504	1504
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	1863	1583	0	3539	0	3433	1863	0	0	1504	1504
Satd. Flow (RTOR)			313								345	345
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	101	168	272	0	356	0	651	0	0	0	1	726
Adj. Flow (vph)	116	193	313	0	409	0	748	0	0	0	1	834
Lane Group Flow (vph)	116	193	313	0	409	0	748	0	0	0	418	417
Turn Type	Split		Perm	Split			Split			Split		Perm
Protected Phases	4	4		8	8		2	2		6	6	
Permitted Phases			4									6
Total Split (s)	20.5	20.5	20.5	20.5	20.5	0.0	27.0	27.0	0.0	22.0	22.0	22.0
Act Effct Green (s)	14.0	14.0	14.0		15.0		32.5				12.6	12.6
Actuated g/C Ratio	0.16	0.16	0.16		0.17		0.36				0.14	0.14
v/c Ratio	0.22	0.67	0.61		0.70		0.60				0.82	0.82
Control Delay	33.4	47.1	9.7		41.9		28.8				21.9	21.7
Queue Delay	0.0	0.0	0.0		0.0		0.0				0.0	0.0
Total Delay	33.4	47.1	9.7		41.9		28.8				21.9	21.7
LOS	C	D	A		D		C				C	C
Approach Delay		25.7			41.9						21.8	
Approach LOS		C			D						C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 27.9





Intersection LOS: C

Intersection Capacity Utilization 68.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 14: Otay Mesa Road & Alta Rd

 ø2	 ø6	 ø4	 ø8
27 s	22 s	20.5 s	20.5 s

Existing + Units 1-5 – Recommended Mitigation

040501 - Otay Crossings

10: Otay Mesa Road & Sanyo Ave
Mitigation - Ex + Otay Crossings - Units 1-5- AM

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↖↗	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	0.95	0.97	0.95
Frt	0.988				0.965	
Flt Protected			0.950		0.963	
Satd. Flow (prot)	3497	0	1770	3539	3358	0
Flt Permitted			0.950		0.963	
Satd. Flow (perm)	3497	0	1770	3539	3358	0
Satd. Flow (RTOR)	13				12	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	2280	200	24	762	32	10
Adj. Flow (vph)	2850	250	30	952	40	12
Lane Group Flow (vph)	3100	0	30	952	52	0
Turn Type			Prot			
Protected Phases	2		1	6	3	
Permitted Phases						
Total Split (s)	45.2	0.0	21.5	66.7	23.3	0.0
Act Effct Green (s)	75.5		7.4	80.7	7.0	
Actuated g/C Ratio	0.84		0.08	0.90	0.08	
v/c Ratio	1.06		0.21	0.30	0.19	
Control Delay	39.2		41.4	1.6	33.1	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	39.2		41.4	1.6	33.1	
LOS	D		D	A	C	
Approach Delay	39.2			2.8	33.1	
Approach LOS	D			A	C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.06

Intersection Signal Delay: 30.5

Intersection LOS: C

Intersection Capacity Utilization 79.4%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

↙ ø1	→ ø2	↖ ø3
21.5 s	45.2 s	23.3 s
← ø6		
66.7 s		

040501 - Otay Crossings

10: Otay Mesa Road & Sanyo Ave
Mitigation - Ex + Otay Crossings - Units 1-5- PM

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↖↗	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	0.95	0.97	0.95
Frt	0.991				0.996	
Flt Protected			0.950		0.954	
Satd. Flow (prot)	3507	0	1770	3539	3434	0
Flt Permitted			0.950		0.954	
Satd. Flow (perm)	3507	0	1770	3539	3434	0
Satd. Flow (RTOR)	10				3	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	873	54	12	2288	185	5
Adj. Flow (vph)	1078	67	15	2825	228	6
Lane Group Flow (vph)	1145	0	15	2825	234	0
Turn Type			Prot			
Protected Phases	2		1	6	3	
Permitted Phases						
Total Split (s)	48.4	0.0	17.5	65.9	24.1	0.0
Act Effct Green (s)	68.0		6.7	70.4	11.6	
Actuated g/C Ratio	0.76		0.07	0.78	0.13	
v/c Ratio	0.43		0.11	1.02	0.53	
Control Delay	5.5		40.4	34.3	40.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	5.5		40.4	34.3	40.2	
LOS	A		D	C	D	
Approach Delay	5.5			34.4	40.2	
Approach LOS	A			C	D	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 26.8

Intersection LOS: C

Intersection Capacity Utilization 75.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

↙ ø1	→ ø2	↖ ø3
17.5 s	48.4 s	24.1 s
← ø6		
65.9 s		

040501 - Otay Crossings

13: Otay Mesa Road & Enrico Fermi Dr
Mitigation - Ex + Otay Crossings - Units 1-5- AM

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘	↑
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1583	1770	3539	3433	1583
Satd. Flow (RTOR)		643				56
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1557	778	42	385	318	48
Adj. Flow (vph)	1832	915	49	453	374	56
Lane Group Flow (vph)	1832	915	49	453	374	56
Turn Type		Perm	Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Total Split (s)	65.5	65.5	21.0	86.5	33.5	33.5
Act Effct Green (s)	60.7	60.7	8.6	68.4	15.8	15.8
Actuated g/C Ratio	0.66	0.66	0.09	0.74	0.17	0.17
v/c Ratio	0.79	0.73	0.31	0.17	0.64	0.18
Control Delay	17.2	7.8	48.6	4.0	41.9	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.2	7.8	48.6	4.0	41.9	11.1
LOS	B	A	D	A	D	B
Approach Delay	14.1			8.4	37.9	
Approach LOS	B			A	D	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 92.4

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 16.1

Intersection LOS: B

Intersection Capacity Utilization 58.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

↙ ø1	→ ø2	
21 s	65.5 s	
← ø6		↘ ø8
86.5 s		33.5 s

040501 - Otay Crossings

13: Otay Mesa Road & Enrico Fermi Rd
Mitigation - Ex + Otay Crossings - Units 1-5- PM

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘↘	↑
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1583	1770	3539	3433	1583
Satd. Flow (RTOR)		364				26
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	528	335	144	1500	863	26
Adj. Flow (vph)	574	364	157	1630	938	28
Lane Group Flow (vph)	574	364	157	1630	938	28
Turn Type		Perm	Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Total Split (s)	60.3	60.3	25.2	85.5	34.5	34.5
Act Effct Green (s)	30.1	30.1	13.1	47.2	31.0	31.0
Actuated g/C Ratio	0.35	0.35	0.15	0.55	0.36	0.36
v/c Ratio	0.47	0.46	0.59	0.84	0.76	0.05
Control Delay	23.2	4.3	44.8	20.6	31.7	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.2	4.3	44.8	20.6	31.7	10.5
LOS	C	A	D	C	C	B
Approach Delay	15.9			22.8	31.1	
Approach LOS	B			C	C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 86.4

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 23.2

Intersection LOS: C

Intersection Capacity Utilization 72.8%

ICU Level of Service C





















Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Rd

↙ ø1	→ ø2	
25.2 s	60.3 s	
← ø6		↖ ø8
85.5 s		34.5 s

040501 - Otay Crossings

14: Otay Mesa Road & Alta Rd.
Mitigation - Ex + Otay Crossings - Units 1-5- AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	0.95	0.97	1.00	1.00	1.00	0.95	0.95
Frt			0.850								0.856	0.850
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	1863	1583	0	3539	0	3433	1863	0	0	1515	1504
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	1863	1583	0	3539	0	3433	1863	0	0	1515	1504
Satd. Flow (RTOR)			735								91	92
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	652	423	676	0	144	0	196	1	0	0	4	168
Adj. Flow (vph)	709	460	735	0	157	0	213	1	0	0	4	183
Lane Group Flow (vph)	709	460	735	0	157	0	213	1	0	0	95	92
Turn Type	Split		Perm	Split			Split			Split		Perm
Protected Phases	4	4		8	8		2	2		6	6	
Permitted Phases			4									6
Total Split (s)	28.0	28.0	28.0	20.5	20.5	0.0	21.0	21.0	0.0	20.5	20.5	20.5
Act Effct Green (s)	34.1	34.1	34.1		9.7		22.8	22.8			7.4	7.4
Actuated g/C Ratio	0.38	0.38	0.38		0.11		0.25	0.25			0.08	0.08
v/c Ratio	0.55	0.65	0.70		0.41		0.24	0.00			0.46	0.44
Control Delay	23.6	28.0	5.7		40.4		29.6	29.0			16.7	15.5
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0			0.0	0.0
Total Delay	23.6	28.0	5.7		40.4		29.6	29.0			16.7	15.5
LOS	C	C	A		D		C	C			B	B
Approach Delay		17.7			40.4			29.6			16.1	
Approach LOS		B			D			C			B	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 20.1





Intersection LOS: C

Intersection Capacity Utilization 59.5%

ICU Level of Service B





















Analysis Period (min) 15

Splits and Phases: 14: Otay Mesa Road & Alta Rd.

 ø2	 ø6	 ø4	 ø8
21 s	20.5 s	28 s	20.5 s

040501 - Otay Crossings

14: Otay Mesa Road & Alta Rd
Mitigation - Ex + Otay Crossings - Units 1-5- PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	0.95	0.97	1.00	1.00	1.00	0.95	0.95
Frt			0.850								0.850	0.850
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	1863	1583	0	3539	0	3433	1863	0	0	1504	1504
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	1863	1583	0	3539	0	3433	1863	0	0	1504	1504
Satd. Flow (RTOR)			302								343	343
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	101	204	272	0	392	0	651	0	0	0	1	726
Adj. Flow (vph)	112	227	302	0	436	0	723	0	0	0	1	807
Lane Group Flow (vph)	112	227	302	0	436	0	723	0	0	0	404	404
Turn Type	Split		Perm	Split			Split			Split		Perm
Protected Phases	4	4		8	8		2	2		6	6	
Permitted Phases			4									6
Total Split (s)	20.5	20.5	20.5	20.5	20.5	0.0	27.0	27.0	0.0	22.0	22.0	22.0
Act Effct Green (s)	15.1	15.1	15.1		15.4		31.6				11.9	11.9
Actuated g/C Ratio	0.17	0.17	0.17		0.17		0.35				0.13	0.13
v/c Ratio	0.19	0.73	0.58		0.72		0.60				0.81	0.81
Control Delay	32.3	49.3	9.1		42.5		29.0				20.8	20.8
Queue Delay	0.0	0.0	0.0		0.0		0.0				0.0	0.0
Total Delay	32.3	49.3	9.1		42.5		29.0				20.8	20.8
LOS	C	D	A		D		C				C	C
Approach Delay		27.4			42.5						20.8	
Approach LOS		C			D						C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 28.3





Intersection LOS: C

Intersection Capacity Utilization 69.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 14: Otay Mesa Road & Alta Rd











			
ø2	ø6	ø4	ø8
27 s	22 s	20.5 s	20.5 s











APPENDIX O



















➤ Cumulative + Project – Recommended Mitigation

040501 - Otay Crossings

11: Otay Mesa Road & Vann Centre Blvd
Cum 2020 w/SR-905 [Phases 1A & 1B] - AM-Mitigated

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	40	730	350	50	20	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	43	793	380	54	22	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					TWLT	
Median storage (veh)					0	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	435				891	217
vC1, stage 1 conf vol					408	
vC2, stage 2 conf vol					484	
vCu, unblocked vol	435				891	217
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	96				93	97
cM capacity (veh/h)	1121				295	787
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	43	397	397	254	181	43
Volume Left	43	0	0	0	0	22
Volume Right	0	0	0	0	54	22
cSH	1121	1700	1700	1700	1700	429
Volume to Capacity	0.04	0.23	0.23	0.15	0.11	0.10
Queue Length 95th (ft)	3	0	0	0	0	8
Control Delay (s)	8.3	0.0	0.0	0.0	0.0	14.3
Lane LOS	A					B
Approach Delay (s)	0.4			0.0		14.3
Approach LOS						B
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			30.2%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	20	450	1010	30	50	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	489	1098	33	54	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					TWLT	
Median storage (veh)					0	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1130				1402	565
vC1, stage 1 conf vol					1114	
vC2, stage 2 conf vol					288	
vCu, unblocked vol	1130				1402	565
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	96				67	91
cM capacity (veh/h)	614				167	468
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	22	245	245	732	399	98
Volume Left	22	0	0	0	0	54
Volume Right	0	0	0	0	33	43
cSH	614	1700	1700	1700	1700	233
Volume to Capacity	0.04	0.14	0.14	0.43	0.23	0.42
Queue Length 95th (ft)	3	0	0	0	0	49
Control Delay (s)	11.1	0.0	0.0	0.0	0.0	31.1
Lane LOS	B					D
Approach Delay (s)	0.5			0.0		31.1
Approach LOS						D
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			40.8%		ICU Level of Service	A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frnt		0.913			0.973			0.971				0.850
Flt Protected	0.950				0.990			0.972			0.976	
Satd. Flow (prot)	1770	1701	0	0	1794	0	0	1758	0	0	1818	1583
Flt Permitted	0.950				0.990			0.798			0.851	
Satd. Flow (perm)	1770	1701	0	0	1794	0	0	1443	0	0	1585	1583
Satd. Flow (RTOR)		110			16			17				432
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	600	80	110	30	90	30	80	30	30	30	30	410
Adj. Flow (vph)	632	84	116	32	95	32	84	32	32	32	32	432
Lane Group Flow (vph)	632	200	0	0	159	0	0	148	0	0	64	432
Turn Type	Split			Split			Perm			Perm		Perm
Protected Phases	2	2		6	6			8			4	
Permitted Phases							8			4		4
Total Split (s)	33.0	33.0	0.0	20.5	20.5	0.0	20.5	20.5	0.0	20.5	20.5	20.5
Act Effct Green (s)	38.5	38.5			11.4			12.2			12.2	12.2
Actuated g/C Ratio	0.52	0.52			0.15			0.16			0.16	0.16
v/c Ratio	0.69	0.21			0.55			0.59			0.25	0.70
Control Delay	10.6	1.1			32.3			34.1			27.7	9.5
Queue Delay	0.0	0.0			0.0			0.0			0.0	0.0
Total Delay	10.6	1.1			32.3			34.1			27.7	9.5
LOS	B	A			C			C			C	A
Approach Delay		8.3			32.3			34.1			11.8	
Approach LOS		A			C			C			B	

Intersection Summary

Cycle Length: 74

Actuated Cycle Length: 74

Offset: 50 (68%), Referenced to phase 2:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 14.0





Intersection LOS: B



















Intersection Capacity Utilization 61.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 14: Otay Mesa Road & Alta Rd.

		
ø2	ø6	ø4
33 s	20.5 s	20.5 s
		
		ø8
		20.5 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.904			0.976			0.984				0.850
Flt Protected	0.950				0.991			0.964			0.976	
Satd. Flow (prot)	1770	1684	0	0	1802	0	0	1767	0	0	1818	1583
Flt Permitted	0.950				0.991			0.736			0.826	
Satd. Flow (perm)	1770	1684	0	0	1802	0	0	1349	0	0	1539	1583
Satd. Flow (RTOR)		95			11			8				758
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	520	50	90	30	110	30	190	30	30	30	30	720
Adj. Flow (vph)	547	53	95	32	116	32	200	32	32	32	32	758
Lane Group Flow (vph)	547	148	0	0	180	0	0	264	0	0	64	758
Turn Type	Split			Split			Perm			Perm		Perm
Protected Phases	2	2		6	6			8			4	
Permitted Phases							8			4		4
Total Split (s)	37.5	37.5	0.0	20.5	20.5	0.0	28.0	28.0	0.0	28.0	28.0	28.0
Act Effct Green (s)	40.5	40.5			13.1			20.4			20.4	20.4
Actuated g/C Ratio	0.47	0.47			0.15			0.24			0.24	0.24
v/c Ratio	0.66	0.18			0.63			0.81			0.18	0.79
Control Delay	26.0	11.5			42.1			49.2			25.6	9.3
Queue Delay	0.0	0.0			0.0			0.0			0.0	0.0
Total Delay	26.0	11.5			42.1			49.2			25.6	9.3
LOS	C	B			D			D			C	A
Approach Delay		22.9			42.1			49.2			10.5	
Approach LOS		C			D			D			B	

Intersection Summary

Cycle Length: 86

Actuated Cycle Length: 86

Offset: 71 (83%), Referenced to phase 2:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 23.0





Intersection LOS: C





















Intersection Capacity Utilization 77.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 14: Otay Mesa Road & Alta Rd

		
ø2	ø6	ø4
37.5 s	20.5 s	28 s
		
		ø8
		28 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frst		0.953				0.850		0.920				0.850
Flt Protected		0.989		0.950			0.950				0.982	
Satd. Flow (prot)	0	1756	0	1770	1863	1583	1770	1714	0	0	1829	1583
Flt Permitted		0.757		0.422			0.950				0.982	
Satd. Flow (perm)	0	1344	0	786	1863	1583	1770	1714	0	0	1829	1583
Satd. Flow (RTOR)		27				548		57				43
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	50	100	80	10	200	510	30	60	70	250	450	40
Adj. Flow (vph)	54	108	86	11	215	548	32	65	75	269	484	43
Lane Group Flow (vph)	0	248	0	11	215	548	32	140	0	0	753	43
Turn Type	Perm			Perm		Perm	Split			Split		Perm
Protected Phases		2			6		8	8		4	4	
Permitted Phases	2			6		6			0.0	46.0	46.0	4
Total Split (s)	23.5	23.5	0.0	23.5	23.5	23.5	20.5	20.5	0.0	46.0	46.0	46.0
Act Effct Green (s)		28.3		28.3	28.3	28.3	10.4	10.4			39.3	39.3
Actuated g/C Ratio		0.31		0.31	0.31	0.31	0.12	0.12			0.44	0.44
v/c Ratio		0.56		0.04	0.37	0.63	0.16	0.56			0.94	0.06
Control Delay		31.6		26.1	29.4	12.5	35.8	31.1			45.2	4.6
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay		31.6		26.1	29.4	12.5	35.8	31.1			45.2	4.6
LOS		C		C	C	B	D	C			D	A
Approach Delay		31.6			17.4			31.9			43.0	
Approach LOS		C			B			C			D	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 6 (7%), Referenced to phase 2:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 30.7





Intersection LOS: C





















Intersection Capacity Utilization 81.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 19: Airway Rd & Sanyo Ave

		
ø2	ø4	ø8
23.5 s	46 s	20.5 s
		
ø6		
23.5 s		

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frst		0.958				0.850		0.982				0.850
Flt Protected		0.994		0.950			0.950				0.965	
Satd. Flow (prot)	0	1774	0	1770	1863	1583	1770	1829	0	0	1798	1583
Flt Permitted		0.941		0.545			0.950				0.965	
Satd. Flow (perm)	0	1679	0	1015	1863	1583	1770	1829	0	0	1798	1583
Satd. Flow (RTOR)		25				563		8				138
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	20	90	50	10	230	570	70	450	60	230	90	120
Adj. Flow (vph)	23	103	57	11	264	655	80	517	69	264	103	138
Lane Group Flow (vph)	0	183	0	11	264	655	80	586	0	0	367	138
Turn Type	Perm			Perm		Perm	Split			Split		Perm
Protected Phases		2			6		8	8		4	4	
Permitted Phases	2			6		6						4
Total Split (s)	28.0	28.0	0.0	28.0	28.0	28.0	34.0	34.0	0.0	28.0	28.0	28.0
Act Effct Green (s)		25.8		25.8	25.8	25.8	30.4	30.4			21.8	21.8
Actuated g/C Ratio		0.29		0.29	0.29	0.29	0.34	0.34			0.24	0.24
v/c Ratio		0.37		0.04	0.49	0.77	0.13	0.94			0.84	0.28
Control Delay		25.4		22.6	31.2	17.8	21.5	54.3			50.6	6.4
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay		25.4		22.6	31.2	17.8	21.5	54.3			50.6	6.4
LOS		C		C	C	B	C	D			D	A
Approach Delay		25.4			21.7			50.4			38.6	
Approach LOS		C			C			D			D	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 79 (88%), Referenced to phase 2:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 34.1





Intersection Capacity Utilization 81.5%




















Analysis Period (min) 15

Intersection LOS: C

ICU Level of Service D

Splits and Phases: 19: Airway Rd & Sanyo Ave

 ø2	 ø4	 ø8
28 s	28 s	34 s
 ø6		
28 s		

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frts		0.916			0.994				0.850		0.942	
Flt Protected	0.950			0.950				0.957			0.996	
Satd. Flow (prot)	1770	3242	0	1770	3518	0	0	1783	1583	0	1748	0
Flt Permitted	0.950			0.950				0.957			0.996	
Satd. Flow (perm)	1770	3242	0	1770	3518	0	0	1783	1583	0	1748	0
Satd. Flow (RTOR)		211			4				222		37	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	60	150	190	10	230	10	570	60	200	10	70	60
Adj. Flow (vph)	67	167	211	11	256	11	633	67	222	11	78	67
Lane Group Flow (vph)	67	378	0	11	267	0	0	700	222	0	156	0
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			
Total Split (s)	10.5	20.7	0.0	10.3	20.5	0.0	38.0	38.0	38.0	21.0	21.0	0.0
Act Effct Green (s)	6.4	24.9		6.2	18.6			39.2	39.2		11.8	
Actuated g/C Ratio	0.07	0.28		0.07	0.21			0.44	0.44		0.13	
v/c Ratio	0.53	0.36		0.09	0.37			0.90	0.27		0.60	
Control Delay	53.0	17.9		41.0	32.9			42.2	3.6		36.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	53.0	17.9		41.0	32.9			42.2	3.6		36.7	
LOS	D	B		D	C			D	A		D	
Approach Delay		23.1			33.2			32.9			36.7	
Approach LOS		C			C			C			D	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 58.5 (65%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 30.9







Intersection Capacity Utilization 69.6%




















Analysis Period (min) 15

Intersection LOS: C

ICU Level of Service C

Splits and Phases: 20: Airway Rd & Paseo De Las Americas

			
ø2	ø1	ø4	ø8
20.7 s	10.3 s	21 s	38 s
			
ø5	ø6		
10.5 s	20.5 s		

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frnt		0.888			0.991				0.850		0.942	
Flt Protected	0.950			0.950				0.957			0.997	
Satd. Flow (prot)	1770	3143	0	1770	3507	0	0	1783	1583	0	1749	0
Flt Permitted	0.950			0.950				0.957			0.997	
Satd. Flow (perm)	1770	3143	0	1770	3507	0	0	1783	1583	0	1749	0
Satd. Flow (RTOR)		276			7				235		37	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	70	80	240	50	300	20	580	70	220	10	70	60
Adj. Flow (vph)	80	92	276	57	345	23	667	80	253	11	80	69
Lane Group Flow (vph)	80	368	0	57	368	0	0	747	253	0	160	0
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			
Total Split (s)	11.0	21.0	0.0	11.0	21.0	0.0	37.0	37.0	37.0	21.0	21.0	0.0
Act Effct Green (s)	6.9	17.0		6.8	17.0			40.2	40.2		12.0	
Actuated g/C Ratio	0.08	0.19		0.08	0.19			0.45	0.45		0.13	
v/c Ratio	0.59	0.45		0.43	0.55			0.94	0.30		0.60	
Control Delay	45.2	19.7		46.8	30.3			37.8	7.5		37.1	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	45.2	19.7		46.8	30.3			37.8	7.5		37.1	
LOS	D	B		D	C			D	A		D	
Approach Delay		24.2			32.5			30.1			37.1	
Approach LOS		C			C			C			D	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 38 (42%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 29.9







Intersection Capacity Utilization 70.3%




















Analysis Period (min) 15

Intersection LOS: C

ICU Level of Service C

Splits and Phases: 20: Airway Rd & Paseo De Las Americas

 ø2	 ø1	 ø4	 ø8
21 s	11 s	21 s	37 s
 ø6	 ø5		
21 s	11 s		

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frts		0.981			0.998			0.948				0.850
Flt Protected	0.950			0.950				0.985			0.976	
Satd. Flow (prot)	1770	3472	0	1770	3532	0	0	1739	0	0	1818	1583
Flt Permitted	0.950			0.950				0.909			0.874	
Satd. Flow (perm)	1770	3472	0	1770	3532	0	0	1605	0	0	1628	1583
Satd. Flow (RTOR)		24			2			33				83
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	140	710	100	40	700	10	40	40	50	10	10	70
Adj. Flow (vph)	167	845	119	48	833	12	48	48	60	12	12	83
Lane Group Flow (vph)	167	964	0	48	845	0	0	156	0	0	24	83
Turn Type	Prot			Prot			Perm			Perm		Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		6
Total Split (s)	25.0	48.0	0.0	16.0	39.0	0.0	26.0	26.0	0.0	26.0	26.0	26.0
Act Effct Green (s)	13.9	37.2		8.2	27.4			36.7			36.7	36.7
Actuated g/C Ratio	0.15	0.41		0.09	0.30			0.41			0.41	0.41
v/c Ratio	0.61	0.67		0.30	0.78			0.23			0.04	0.12
Control Delay	44.7	23.2		42.2	33.7			17.6			17.7	3.7
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	44.7	23.2		42.2	33.7			17.6			17.7	3.7
LOS	D	C		D	C			B			B	A
Approach Delay		26.4			34.2			17.6			6.9	
Approach LOS		C			C			B			A	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 7 (8%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 27.9







Intersection LOS: C




















Intersection Capacity Utilization 51.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 33: Siempre Viva Rd & Michael Faraday Dr

		
ø2	ø3	ø4
26 s	16 s	48 s
		
ø6	ø7	ø8
26 s	25 s	39 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.996			0.990				0.850
Flt Protected	0.950			0.950				0.967			0.990	
Satd. Flow (prot)	1770	3507	0	1770	3525	0	0	1783	0	0	1844	1583
Flt Permitted	0.950			0.950				0.767			0.945	
Satd. Flow (perm)	1770	3507	0	1770	3525	0	0	1414	0	0	1760	1583
Satd. Flow (RTOR)		9			3			4				143
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	100	480	30	40	780	20	90	30	10	10	40	130
Adj. Flow (vph)	110	527	33	44	857	22	99	33	11	11	44	143
Lane Group Flow (vph)	110	560	0	44	879	0	0	143	0	0	55	143
Turn Type	Prot			Prot			Perm			Perm		Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		6
Total Split (s)	24.0	50.0	0.0	20.0	47.0	0.0	29.0	29.0	0.0	29.0	29.0	29.0
Act Effct Green (s)	11.6	35.5		8.3	30.2			48.3			48.3	48.3
Actuated g/C Ratio	0.12	0.36		0.08	0.30			0.48			0.48	0.48
v/c Ratio	0.53	0.45		0.30	0.82			0.21			0.06	0.17
Control Delay	50.4	24.9		47.7	39.0			19.2			19.0	4.4
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	50.4	24.9		47.7	39.0			19.2			19.0	4.4
LOS	D	C		D	D			B			B	A
Approach Delay		29.1			39.4			19.2			8.4	
Approach LOS		C			D			B			A	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 31.2







Intersection Capacity Utilization 51.6%

Analysis Period (min) 15

Intersection LOS: C

ICU Level of Service A

Splits and Phases: 33: Siempre Viva Road & Michael Faraday Dr

		
ø2	ø3	ø4
29 s	20 s	50 s
		
ø6	ø7	ø8
29 s	24 s	47 s

APPENDIX P

- Caltrans Striping Concepts for Otay Mesa Rd btwn. Piper Ranch Rd & Harvest Rd
 - Proposed Sunroad Improvements for Otay Mesa Rd btwn. Harvest Rd and Vann Centre Blvd
 - Caltrans Striping Concepts for Airway Rd between Harvest Rd and Sanyo Av
 - Fair-Share Memo for Otay Crossings Mitigation at Otay Mesa Rd/Harvest Rd
- Caltrans Striping Concept for La Media Rd between Otay Mesa Rd and Airway Rd

Caltrans Striping Concepts for Otay Mesa Rd btwn. Piper Ranch Rd & Harvest Rd

Proposed Sunroad Improvements for Otay Mesa Rd btwn. Harvest Rd and Vann
Centre Blvd

Caltrans Striping Concepts for Airway Rd between Harvest Rd and Sanyo Av

Fair-Share Memo for Otay Crossings Mitigation at Otay Mesa Rd/Harvest Rd

Darnell & ASSOCIATES, INC.

TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

MEMORANDUM

April 9, 2009

To: Jerry Moriarity; County of San Diego

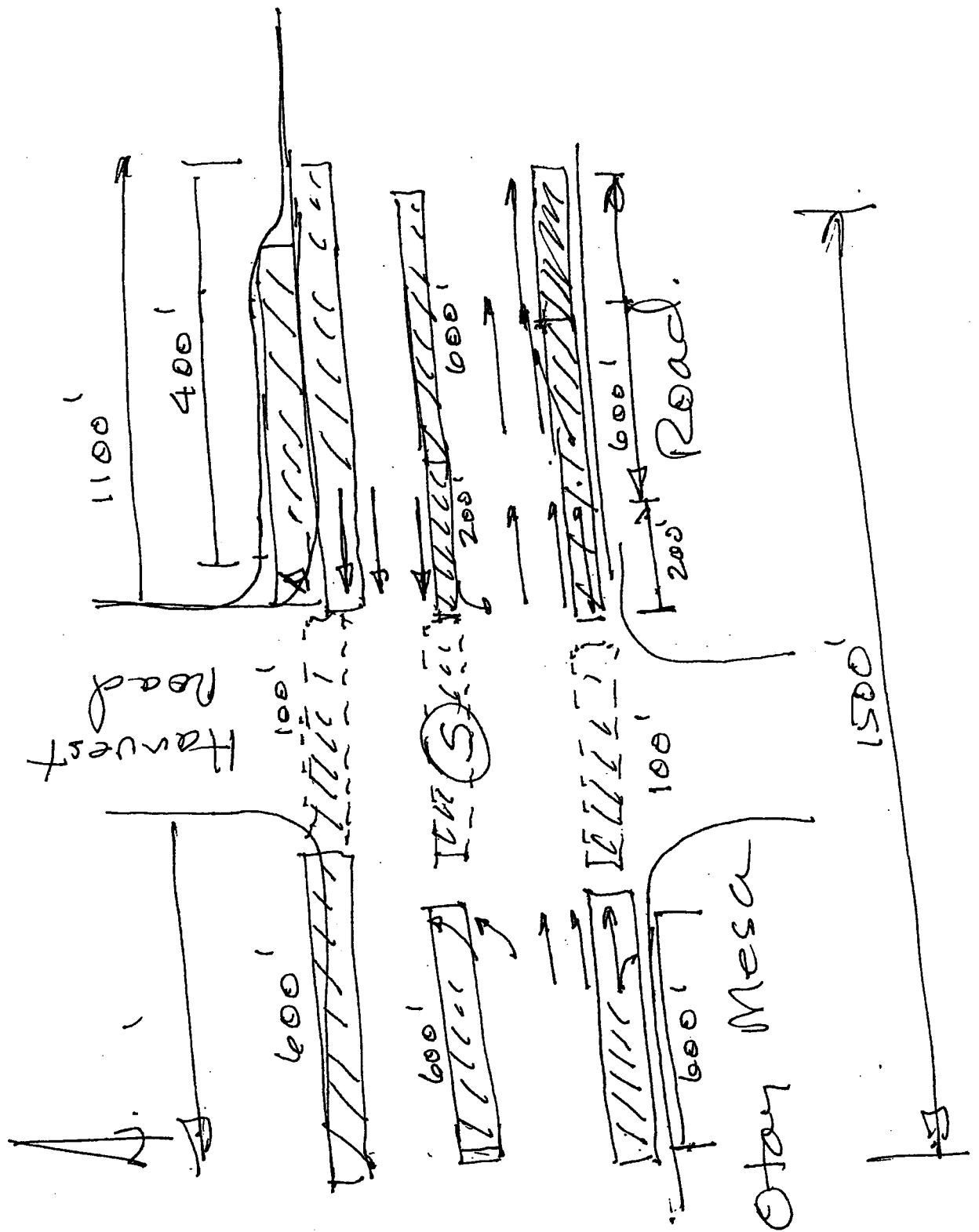
From: Bill E. Darnell

D&A Ref. No: 040501

Subject: Fair Share Calculation for Otay Crossings Commerce Park Mitigation at Otay Mesa Road and Harvest Road.

Attached is a rough sketch and cost estimate to add intersection improvements at Otay Mesa Road and Harvest Road. I have estimated the improvements based on \$1,000,000 per lane mile. This estimate is based on the San Bernardino County CMP Preliminary Cost Estimating Process used for mitigating projects impacts (copy attached). I have included the additional lanes required and the cost of a traffic signal. The projects fair share is 9.85% and equates to \$108,574.

Otay Crossings Commerce Park Fair Share Construct Cost Estimate Otay Mesa Road at Harvest Road			
Westbound			
Add	1,100 Ft of lane		
Add	400 Ft of Right Turn Lane		
Total	1,500 Ft		
Eastbound			
Add	1,500 Ft of Left Turn Lane and Transition		
Add	1,500 Ft of Thru Lane		
Total	3,000 Ft		
Based on SANBAG Estimate of \$1,000,000 mile per lane			
Westbound	=	<u>1,500 Ft</u> x \$1,000,000	= \$284,091.00
	=	5,280	
Eastbound	=	<u>3,000 Ft</u> x \$1,000,000	= \$568,182.00
	=	5,280 Ft	
Signal Installation			= \$250,000.00
Total Cost Estimate			= \$1,102,273.00
Project Fair Share			= (\$1,102,273.00 x 0.0985)
Project Fair Share Total			= \$108,574.00



APPENDIX G

PRELIMINARY CONSTRUCTION COST ESTIMATES FOR CONGESTION MANAGEMENT PLAN

**G-2 PRELIMINARY CONSTRUCTION COST ESTIMATES
FOR
CONGESTION MANAGEMENT PLAN**

Add One Lane Each Direction on Freeway			
Asphalt Concrete Pavement		\$2,300,000 Per Mile	
Portland Cement Concrete Pavement		\$2,800,000 Per Mile	
Includes:	Excavation	Excludes:	Environmental Costs
	Paving Section		Right of Way
	Barrier		Widening of Bridge Structures
	Shoulder		Added Retaining Walls
	Upgrade Drainage System		Added Sound Walls
	Traffic Control		
	Mobilization @10%		
	Design @11%		
	Construction Mgt. @12.5%		
Widen Existing UC Structures			
Total Cost =		\$160 Per Square Foot	
Includes:	Structure	Excludes:	Environmental Costs
	Mobilization @10%		Right of Way
	Design @11%		Traffic Control
	Construction Mgt. @12.5%		Ramp Modifications
			Signal/Lighting Up Grades
			Drainage Upgrades
			Added Retaining Walls
			Added Sound Walls
Diamond Interchanges			
\$10,000,000	EACH	NEW IC	Minimal Row/Environmental
\$15,000,000	EACH	NEW IC	Includes Row/Environmental
\$20,000,000	EACH	EXISTING	Minimal Row/Environmental
\$25,000,000	EACH	EXISTING	Includes Row/ Environmental
Includes:	Structure	Excludes:	As listed
	Retaining Walls		
	Soil Nail Walls		
	Drainage System		
	Ramps		
	Mobilization @ 10%		
	Design @ 11%		
	Construction Mgt. @ 12.5%		

Appendix G

Retaining Walls

Height Feet	Structure Cost \$/LF	Mobilization Design Constr. Mgt. \$/LF	Total \$/LF
4	\$190	\$70	\$260
6	\$260	\$90	\$350
8	\$380	\$140	\$520
10	\$430	\$150	\$580
12	\$480	\$170	\$650
14	\$590	\$210	\$800
16	\$660	\$240	\$900
Excludes: Environmental Costs Right of Way			

12' High Sound Walls (Masonry Block on Footing)

Structure Cost \$/Mile	Mobilization Design Constr. Mgt. \$/Mile	Total \$/Mile
\$800,000	\$300,000	\$1,100,000

Widen Conventional Highway

1. Add one outside lane (Work includes earthwork, modify existing drainage system and construct AC shoulder section.) Asphalt Concrete Pavement	\$1,000,000/Mile
2. Add one outside lane each direction (Work includes earthwork, modify existing drainage system and construct AC shoulder section) Asphalt Concrete Pavement With Median Concrete Barrier With Median Double Thrie Beam Barrier	\$2,000,000/Mile \$2,200,000/Mile \$2,300,000/Mile

Local Interchange Improvements

1. New Interchange Urban Interchange	\$10,000,000 to \$17,000,000
Partial – Cloverleaf Interchange (Work includes new OC structure, earthwork, signal)	\$6,000,000
Diamond Interchange (Work includes new OC structure, earthwork, signal)	\$5,000,000

Appendix G

Local Interchange Improvements CONT...

2.	Reconstruct Existing Interchange	
	Realign and widen existing ramps (to 2 lanes)	\$750,000/Each Ramp
	Construct Loop on – ramps (Does not include realigning existing ramp)	\$700,000/Each Ramp
	Upgrade existing Diamond IC to Partial – Cloverleaf	\$6,000,000
3.	Improve Existing Interchange	
	Widen ramps (From one to two lanes)	\$350,000/Each Ramp
	Widen existing OC structure	\$110/Sq. Ft.
	Signalize ramp intersection	\$90,000/Location
	Upgrade existing signal at ramp terminal	\$75,000/Intersection
	Upgrade existing signal at ramp terminal (Add lights only)	\$25,000/Each
4.	Ramp Metering System	\$60,000/Each location

Intersection Improvements

1.	Signalization of local intersection (with some roadwork)	\$250,000
2.	Upgrade existing intersection signalization	\$75,000
3.	Upgrade existing Traffic Controller/Assembles	\$40,000/Each
4.	Install new signal	\$90,000/location
5.	Add signal heads	\$25,000/Intersection
6.	Construct left – turn lane (240' long)	\$50,000/Each Location
7.	Street widening (12' wide) (Pavement only)	\$180,000/Mile
8.	Curb and gutter (Type A2-8)	\$15/LF

Appendix

Other Improvements

1.	Construct new OC structure (Does not include roadway work)	\$100/Sq. Ft.
2.	Construct Retaining Walls (Type 1)	\$285/LF (H=8') \$360/LF (H=10') \$460/LF (H=12') \$560/LF (H=14')
3.	Construct Soundwall	\$1,000,000/Mile (H=12')
4.	Traffic Management Plan	10% of total construction costs

NOTE: This cost estimate does not include the following items:

1. R/W engineering, appraisal, acquisition and utilities relocation costs.
2. Minor items and supplemental work (10%).
3. Mobilization (10%).
4. Contingencies (25%).
5. Landscaping costs.

General Note: When adding a through lane, the minimum distance is 600' approach and 600' departure to the next intersection.

Caltrans Striping Concept for La Media Rd between Otay Mesa Rd and Airway Rd

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

DESIGN OVERSIGHT	DESIGNED BY	CHECKED BY	DATE	REVISION	BY	DATE
RAJON MARTINEZ						

ISSUE RECORD		
No.	PURPOSE	DATE
0	RELEASED FOR CONSTRUCTION	09SEP05
1	RFR C-044	XXXXX06

- NOTES:
1. ALL STRIPING AND PAVEMENT MARKINGS SHALL BE THERMOPLASTIC, UNLESS OTHERWISE NOTED.
 2. ALL CROSSWALKS SHALL BE 3 METERS WIDE, INSIDE WIDTH.
 3. ALL CHEVRON AND DIAGONAL MARKINGS SHALL BE CONSTRUCTED AT A 45 DEGREE ANGLE FROM THE ETW.
 4. EXACT LOCATION OF MARKINGS TO BE DETERMINED BY THE ENGINEER IN THE FIELD.
 5. FOR DETAIL 25 Mod, 25A Mod AND DETAIL 27B Mod, SEE SHEET PDD-1.
 6. ALL CONCRETE BARRIERS SHALL BE INSTALLED WITH BARRIER MARKERS (SEE SHEET PDD-1).
 7. ALL GUARD RAILING SYSTEMS SHALL BE INSTALLED WITH A MINIMUM OF THREE FLEXIBLE GUARD RAILING DELINEATORS (TYPE F) (SEE CONSTRUCTION DETAIL SHEET C-57).

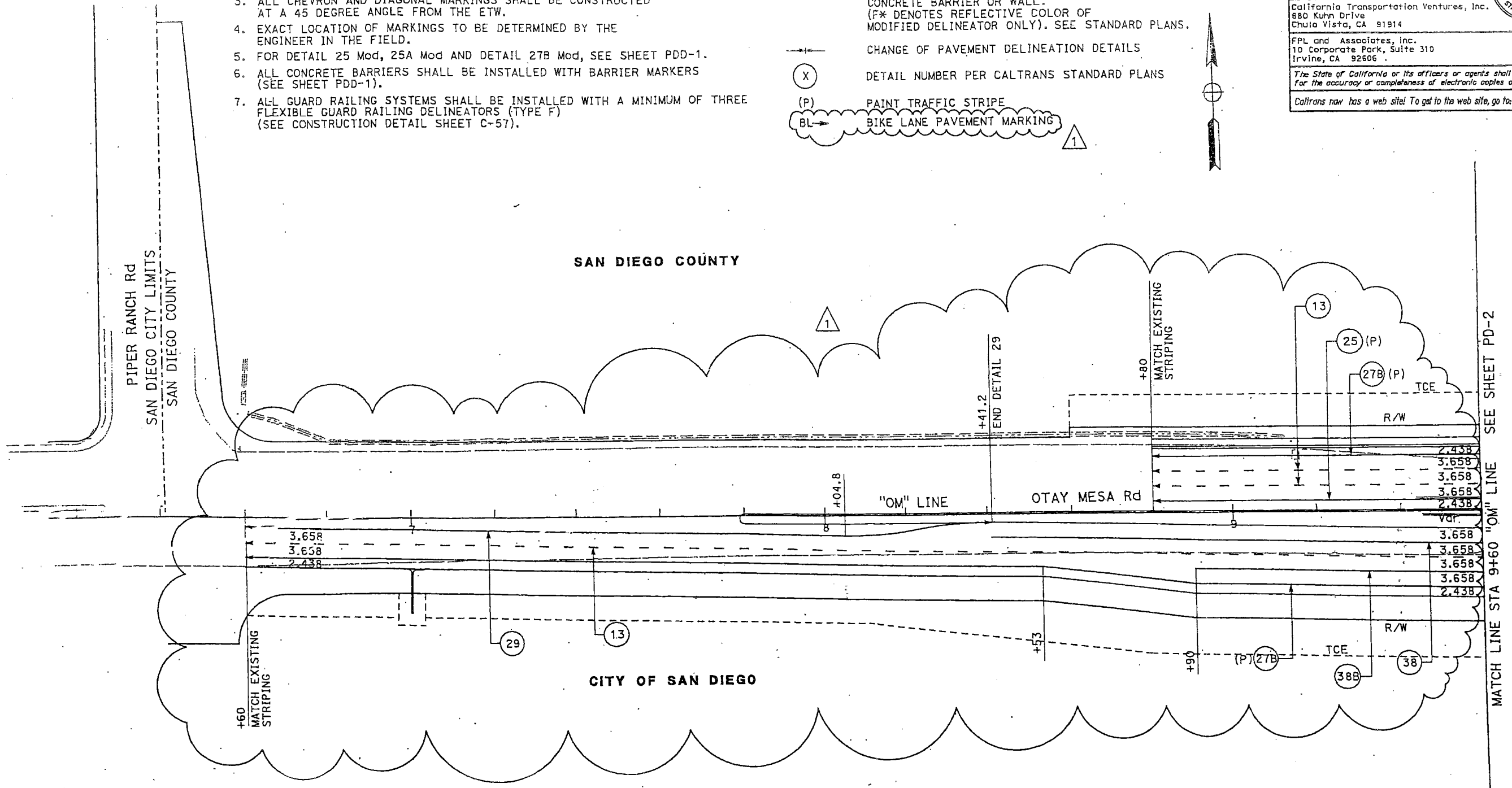
- LEGEND:
- OBJECT MARKER, TYPE Q
 - TYPE F DELINEATOR, CLASS 1
 - MODIFIED DELINEATOR TO BE MOUNTED ON CONCRETE BARRIER OR WALL. (F* DENOTES REFLECTIVE COLOR OF MODIFIED DELINEATOR ONLY). SEE STANDARD PLANS.
 - CHANGE OF PAVEMENT DELINEATION DETAILS
 - DETAIL NUMBER PER CALTRANS STANDARD PLANS
 - PAINT TRAFFIC STRIPE
 - BIKE LANE PAVEMENT MARKING



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	125	2.7/8.2		

REGISTERED CIVIL ENGINEER DATE 08SEP06
Ronald R. Fromknecht
No. 45704
Exp. 12-31-06
CIVIL
STATE OF CALIFORNIA

PLANS APPROVAL DATE:
California Transportation Ventures, Inc.
880 Kuhn Drive
Chula Vista, CA 91914
FPL and Associates, Inc.
10 Corporate Park, Suite 310
Irvine, CA 92606
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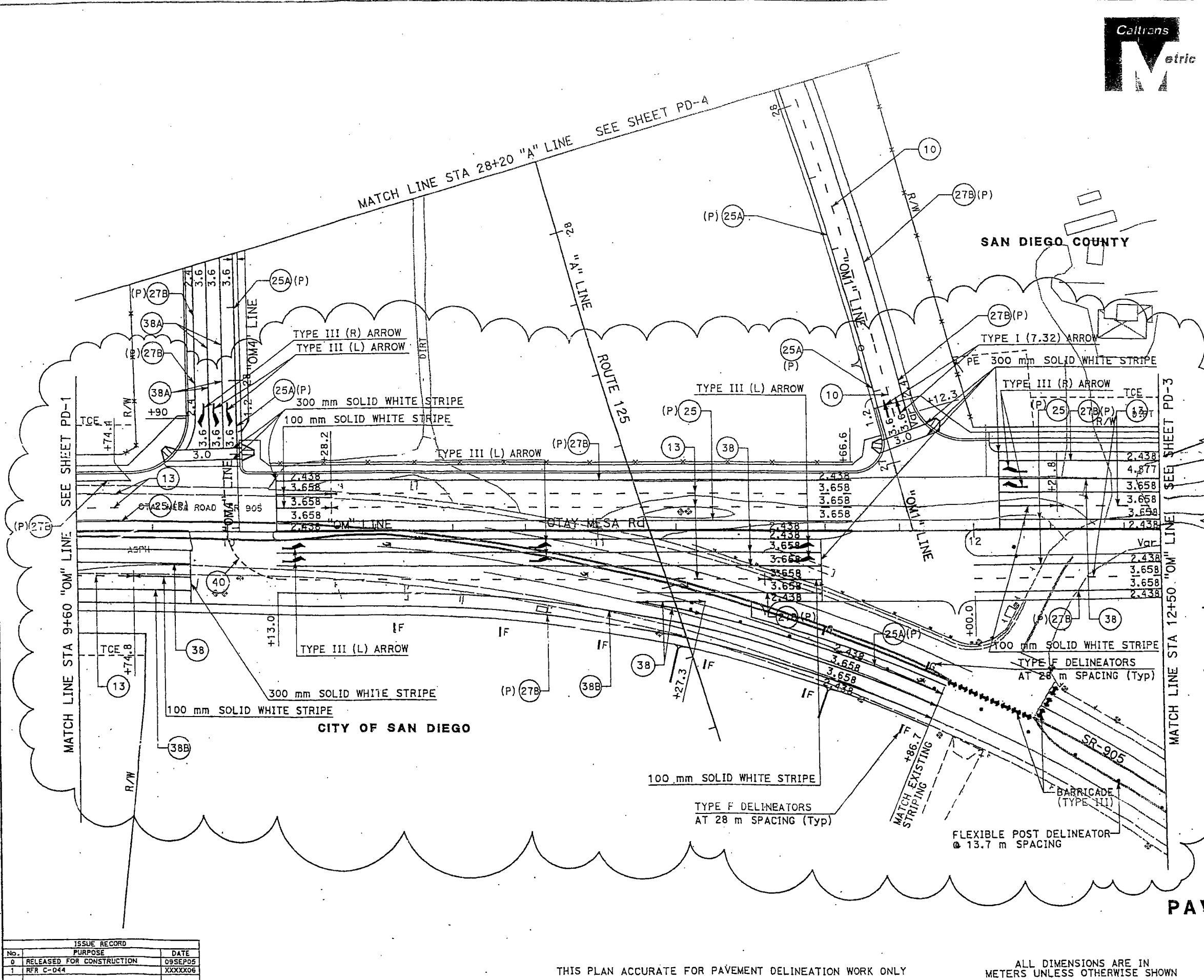


PAVEMENT DELINEATION
PLAN
SCALE 1:500
P-2 PD-1
SEGMENT 1A

THIS PLAN ACCURATE FOR PAVEMENT DELINEATION WORK ONLY
ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN
FOR REDUCED PLANS ORIGINAL 0 20 40 60 80 USERNAME => Eddie Tang

LAST REVISION DATE PLOTTED => 9/12/2006
09-08-06 TIME PLOTTED => 10:42:48 AM
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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION		DESIGN OVERSIGHT		CALCULATED/DESIGNED BY		DATE		REVISOR BY		DATE		REVISOR BY		DATE	
Caltrans		RAMON MARTINEZ													



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	125	2.7/8.2		

Registered Professional Engineer
 Ronald R. Fromknecht
 No. 45704
 Exp. 12-31-06
 CIVIL
 STATE OF CALIFORNIA

PLANS APPROVAL DATE
 08SEP06

California Transportation Ventures, Inc.
 880 Kuhn Drive
 Chula Vista, CA 91914

FPL and Associates, Inc.
 10 Corporate Park, Suite 310
 Irvine, CA 92606

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ISSUE RECORD		
No.	PURPOSE	DATE
0	RELEASED FOR CONSTRUCTION	09SEP05
1	RFR C-044	XXXXXX06

THIS PLAN ACCURATE FOR PAVEMENT DELINEATION WORK ONLY

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

PAVEMENT DELINEATION PLAN
 SCALE 1:500
 P-3 PD-2

LAST REVISION DATE PLOTTED 9/12/2006
 09-08-06 TIME PLOTTED 10:56:26 AM
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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

DESIGN OVERSIGHT	CALCULATED/DESIGNED BY	CHECKED BY	DATE	REVISED BY	DATE	REVISED BY	DATE
RAMON MARTINEZ							



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	125	2.7/8.2		

Ronald R. Franknecht
REGISTERED CIVIL ENGINEER
DATE 08SEP06

PLANS APPROVAL DATE

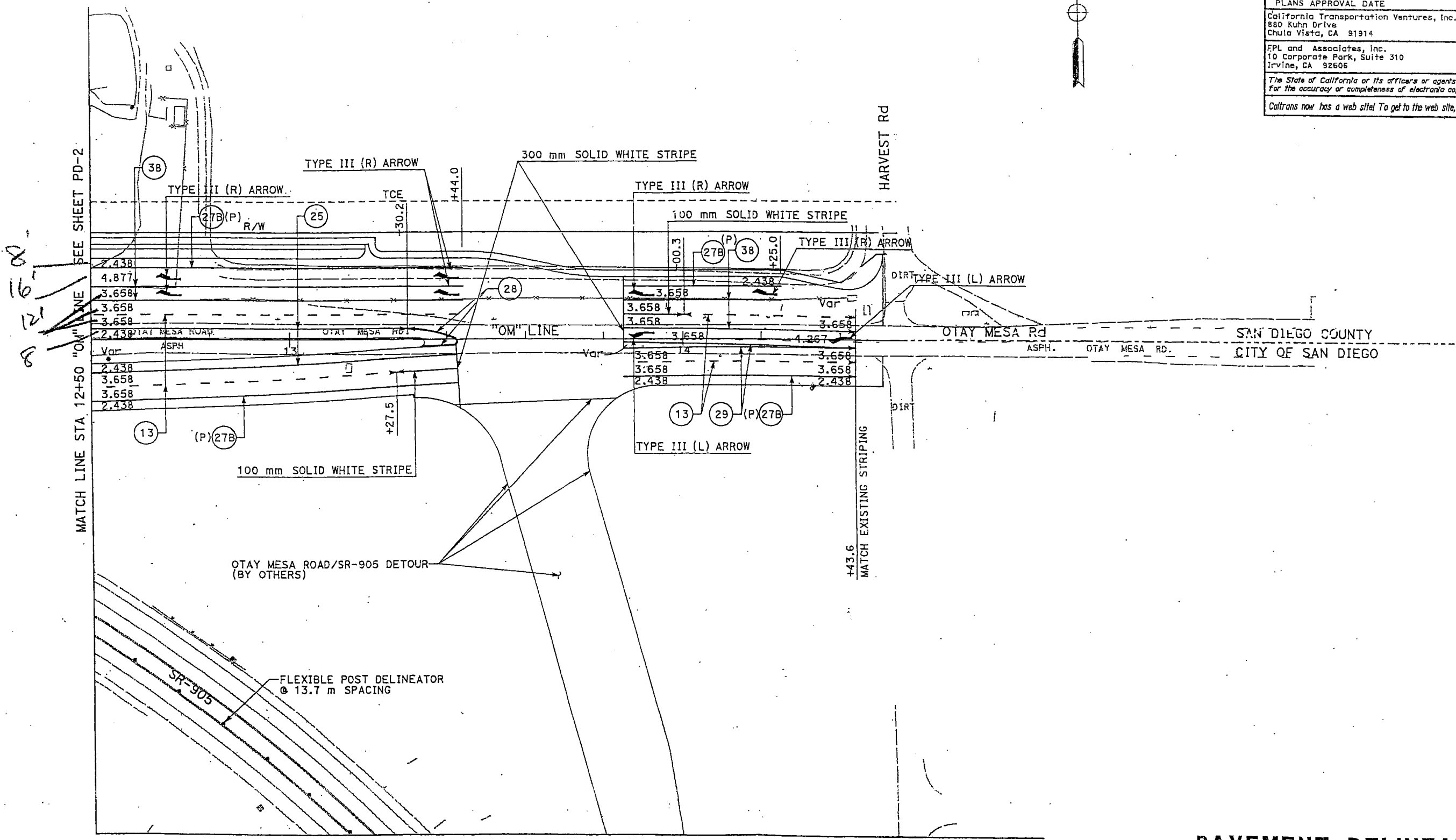
California Transportation Ventures, Inc.
880 Kuhn Drive
Chula Vista, CA 91914

FPL and Associates, Inc.
10 Corporate Park, Suite 310
Irvine, CA 92606

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

Caltrans now has a web site! To get to the web site, go to: <http://www.dot.ca.gov>

REGISTERED PROFESSIONAL ENGINEER
No. 45704
Exp. 12-31-06
CIVIL
STATE OF CALIFORNIA



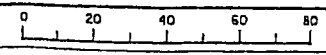
MATCH LINE SEE SHEET PD-22

PAVEMENT DELINEATION
PLAN
SCALE 1:500
P-4 PD-3

THIS PLAN ACCURATE FOR PAVEMENT DELINEATION WORK ONLY

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

FOR REDUCED PLANS ORIGINAL SCALE IS IN MILLIMETERS



USERNAME => Eddie Tang
DGN FILE => ...N1ana03.dgn

CU 11274

EA 232301

SEGMENT 1A

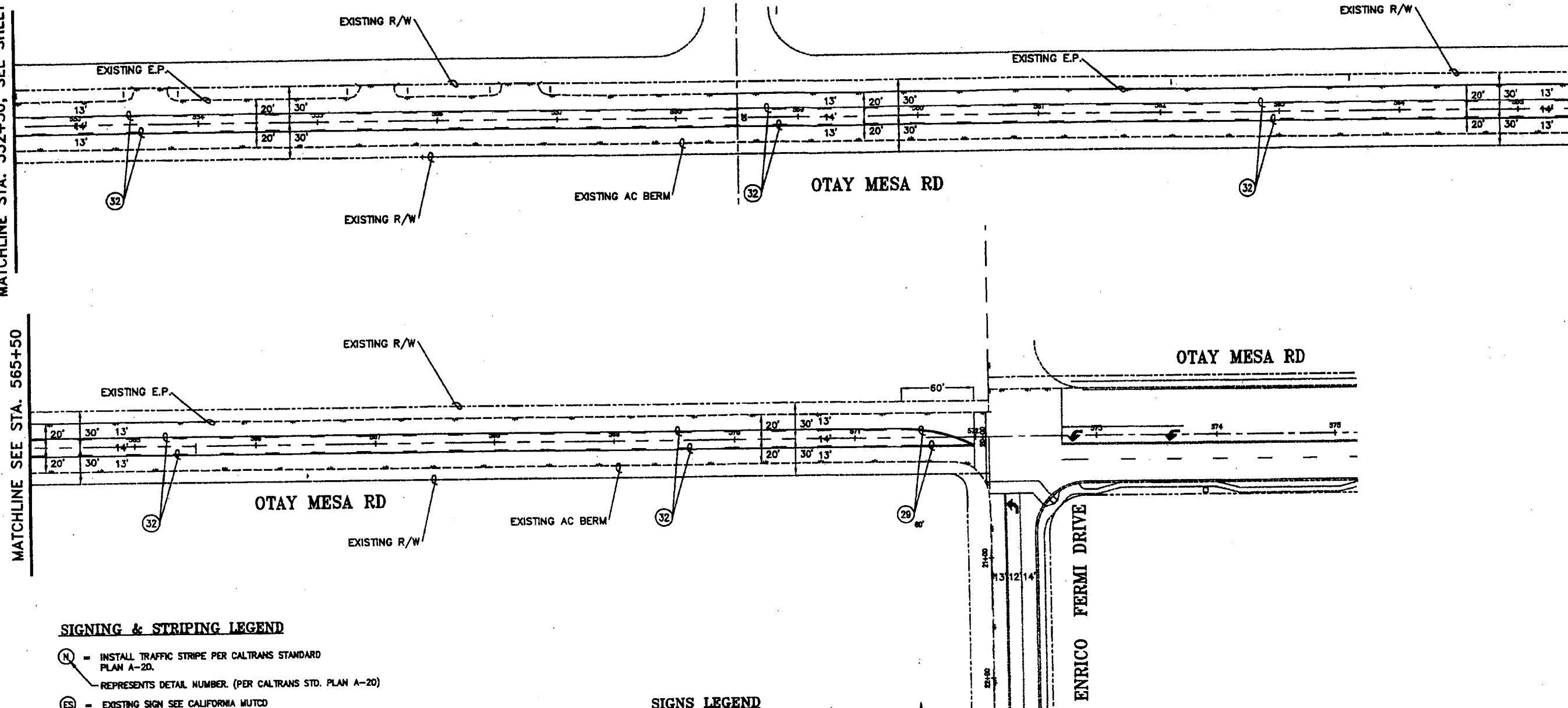
ISSUE RECORD		
No.	PURPOSE	DATE
0	RELEASED FOR CONST. (RFR C-044)	XXXXX06

DATE PLOTTED => 9/12/2006
TIME PLOTTED => 10:44:12 AM
LAST REVISION
09-08-06
S:\VPL\Jobs\1090 - SR-125\Segment 1a\Design\DMR\Design\1ana03.dgn

MATCHLINE STA. 552+50, SEE SHEET 1

MATCHLINE SEE STA. 565+50

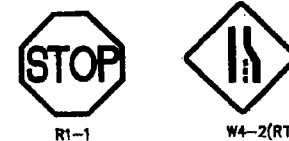
MATCHLINE SEE STA. 565+50



SIGNING & STRIPING LEGEND

- (N) = INSTALL TRAFFIC STRIPE PER CALTRANS STANDARD PLAN A-20.
- (S) = REPRESENTS DETAIL NUMBER. (PER CALTRANS STD. PLAN A-20)
- (ES) = EXISTING SIGN SEE CALIFORNIA MUTCD
- XX = REPRESENTS SIGN. (PER CALTRANS MUTCD)
- (S) = INSTALL SIGN PER CALIFORNIA MUTCD
- XX = REPRESENTS SIGN. (PER CALTRANS MUTCD)
- (PA) = INSTALL TYPE IV (LT OR RT) ARROW PER CALTRANS STANDARD PLAN A24A.
- (PM) = PAINT STOP LEGEND AND 12" WHITE LIMIT LINE.
- (11) = INSTALL 4" WHITE SKIP LINE, PER DETAIL 11 OF CALTRANS STANDARD PLAN.
- (22) = INSTALL DOUBLE YELLOW CENTERLINE WITH PAVEMENT MARKERS PER DETAIL 22 OF CALTRANS STANDARD PLAN.
- (29) = INSTALL DOUBLE YELLOW MEDIAN WITH PAVEMENT MARKERS PER DETAIL 29 OF CALTRANS STANDARD PLAN.
- (32) = INSTALL TWO WAY LEFT TURN LANE PER DETAIL 32 OF CALTRANS STANDARD PLAN.
- (38) = INSTALL CHANNELIZING LANE WITH PAVEMENT MARKERS PER DETAIL 38 CALTRANS STANDARD PLAN.

SIGNS LEGEND



PLANS PREPARED UNDER THE SUPERVISION OF:

BILL E. DARNELL R.C.E. No. 22338 DATE
DESIGN ENGINEER LICENSE EXPIRES 8-30-08

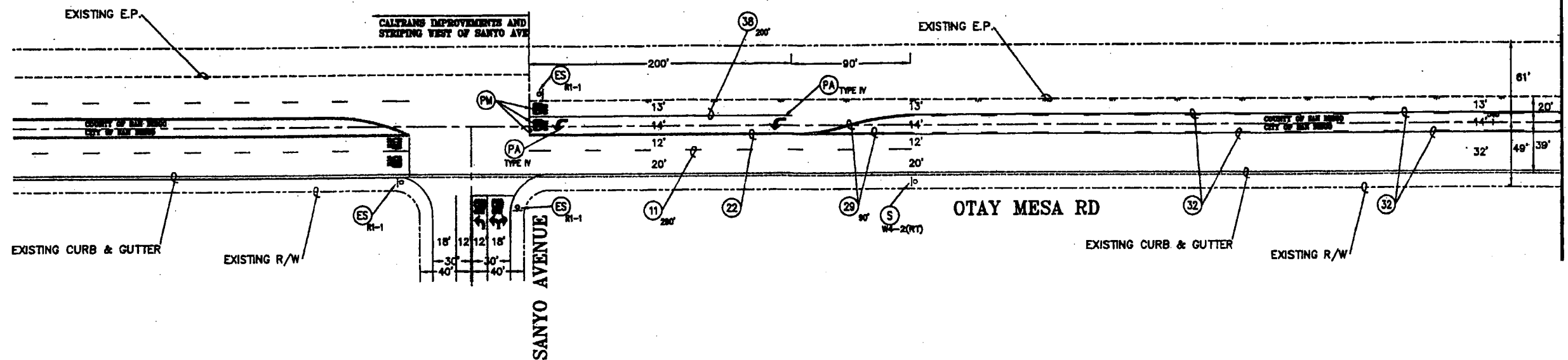
Darnell & Associates, Inc.
1448 FRONT STREET, THIRD FLOOR
SAN DIEGO, CA 92101
(619) 233-6373

DWG: 051202CP-1A.dwg DATE: 02-08-08 BY: JN/AM/SH

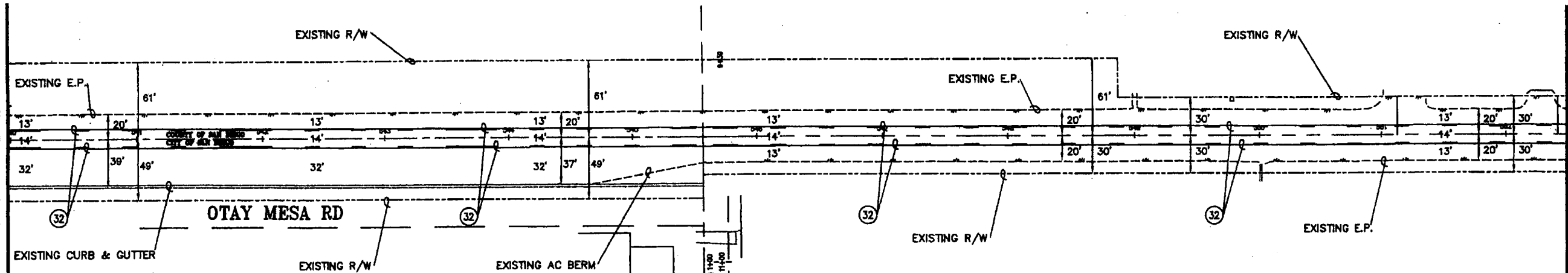
COUNTY APPROVED CHANGES			BENCH MARK	
No.	Description	Approved by	Date	Description

BENCH MARK	
Description	Date

PRIVATE CONTRACT		
SHEET 2	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	2 SHEETS
CHANNELIZATION CONCEPT		
SANTO AVE TO ENRICO FERMI DRIVE		
CALIFORNIA COORDINATE INDEX 208-1781		
Reviewed and Approved	Approved	FOR DIRECTOR OF PUBLIC WORKS
Signature of user	Checked by	Signature of user
By	Date	By



MATCHLINE SEE ABOVE RIGHT

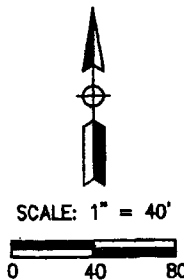


MATCHLINE SEE STA 552+50, SHEET 2

SIGNING & STRIPING LEGEND

- (N) = INSTALL TRAFFIC STRIPE PER CALTRANS STANDARD PLAN A-20.
- (ES) = EXISTING SIGN SEE CALIFORNIA MUTCD
- (S) = INSTALL SIGN PER CALIFORNIA MUTCD
- (PA) = INSTALL TYPE IV (LT OR RT) ARROW PER CALTRANS STANDARD PLAN A24A.
- (PM) = PAINT STOP LEGEND AND 12" WHITE LIMIT LINE.
- (11) = INSTALL 4" WHITE SKIP LINE, PER DETAIL 11 OF CALTRANS STANDARD PLAN.
- (22) = INSTALL DOUBLE YELLOW CENTERLINE WITH PAVEMENT MARKERS PER DETAIL 22 OF CALTRANS STANDARD PLAN.
- (29) = INSTALL DOUBLE YELLOW MEDIAN WITH PAVEMENT MARKERS PER DETAIL 29 OF CALTRANS STANDARD PLAN.
- (32) = INSTALL TWO WAY LEFT TURN LANE PER DETAIL 32 OF CALTRANS STANDARD PLAN.
- (38) = INSTALL CHANNELIZING LANE WITH PAVEMENT MARKERS PER DETAIL 38 CALTRANS STANDARD PLAN.

SIGNS LEGEND



PLANS PREPARED UNDER THE SUPERVISION OF:
BILL E. DARNELL P.E. No. 22338 DATE
 DESIGN ENGINEER LICENSE EXPIRES 9-30-08
Darnell & Associates, Inc.
 1448 FRONT STREET, THIRD FLOOR
 SAN DIEGO, CA 92101
 (619) 233-6373
 DWG:021202CP-1A.dwg DATE:02-08-08BY:BN/AM/BN

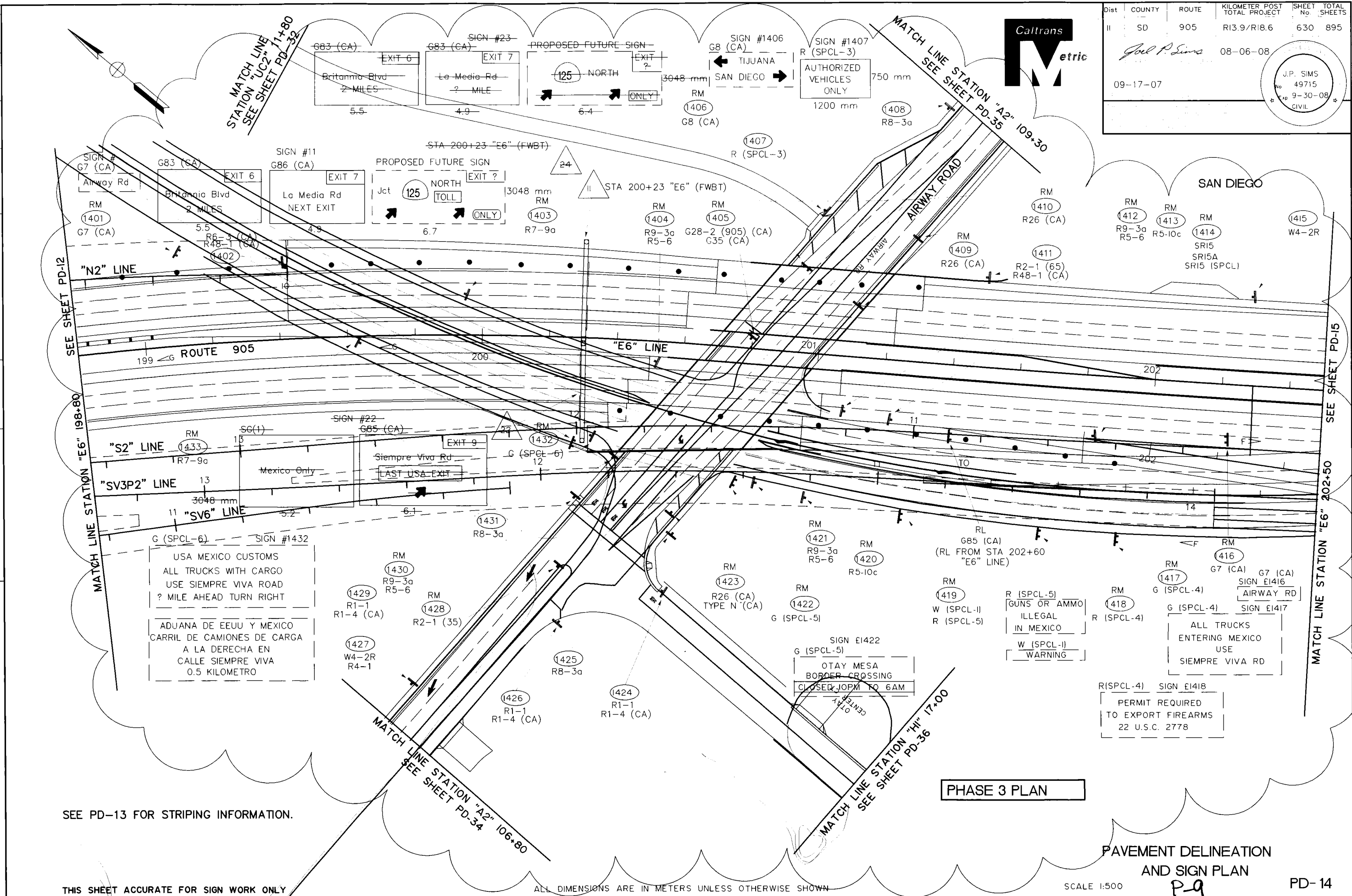
COUNTY APPROVED CHANGES

No.	Description	Approved by	Date

BENCH MARK

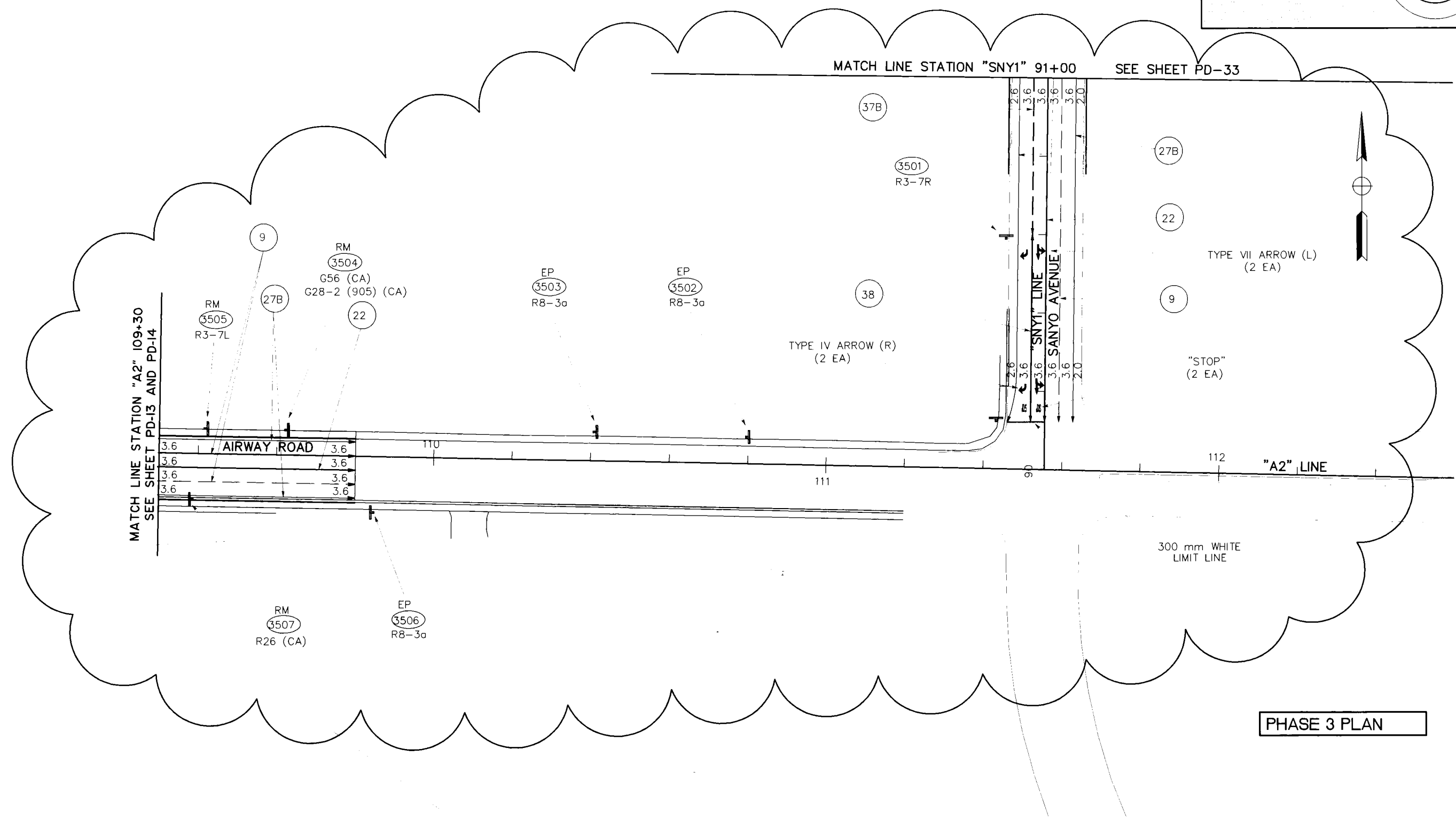
DESCRIPTION	
LOCATION	
READING FROM	
ELEVATION	

PRIVATE CONTRACT		
SHEET 1	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	2 SHEETS
CHANNELIZATION CONCEPT		
SANTO AVE TO ENRICO FERM DRIVE		
CALIFORNIA COORDINATE INDEX 208-1791		
Recommended for issuance	Approved	FOR DIRECTOR OF PUBLIC WORKS
Engineer of work by Date	Checked by Date	Approved





Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
II	SD	905	R13.9/R18.6	651	895
<i>Joel P. Sims</i>			08-06-08	<div><div>J.P. SIMS</div><div>49715</div><div>No. 9-30-08</div><div>CIVIL</div></div>	
09-17-07					



PHASE 3 PLAN

PAVEMENT DELINEATION
AND SIGN PLAN

P-11

PD- 35

THIS SHEET ACCURATE FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

SCALE 1:500



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	905	R13.9/R18.6	623	895

08-06-08

09-17-07

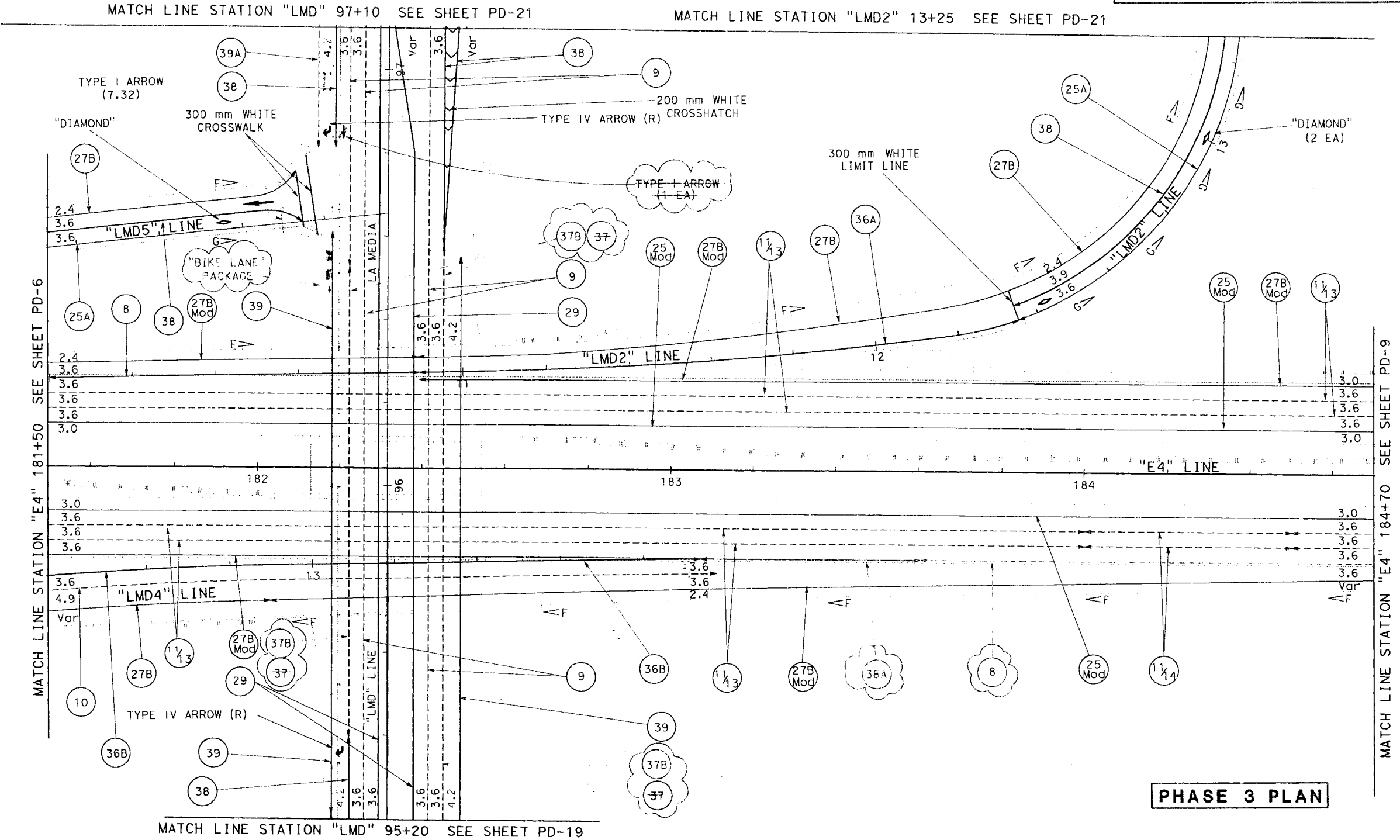
PLANS APPROVAL DATE

08-06-08

09-30-08

CIVIL

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.



PHASE 3 PLAN

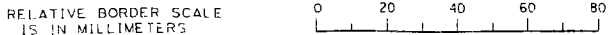
SEE PD-8 FOR SIGNING INFORMATION.

PAVEMENT DELINEATION
AND SIGN PLAN
P-21 PD-7

THIS SHEET ACCURATE FOR PAVEMENT DELINEATION ONLY

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

SCALE 1:500



USERNAME => s108638
DGN FILE => b09182nag07.p3.dgn

CU 11223

EA 091821

Dist

COUNTY

ROUTE

KILOMETER POST TOTAL PROJECT

SHEET No.

TOTAL SHEETS

11

SD

905

R13.9/R18.6

635

895

Joel P. Sims

08-06-08

REGISTERED CIVIL ENGINEER

DATE

09-17-07

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER

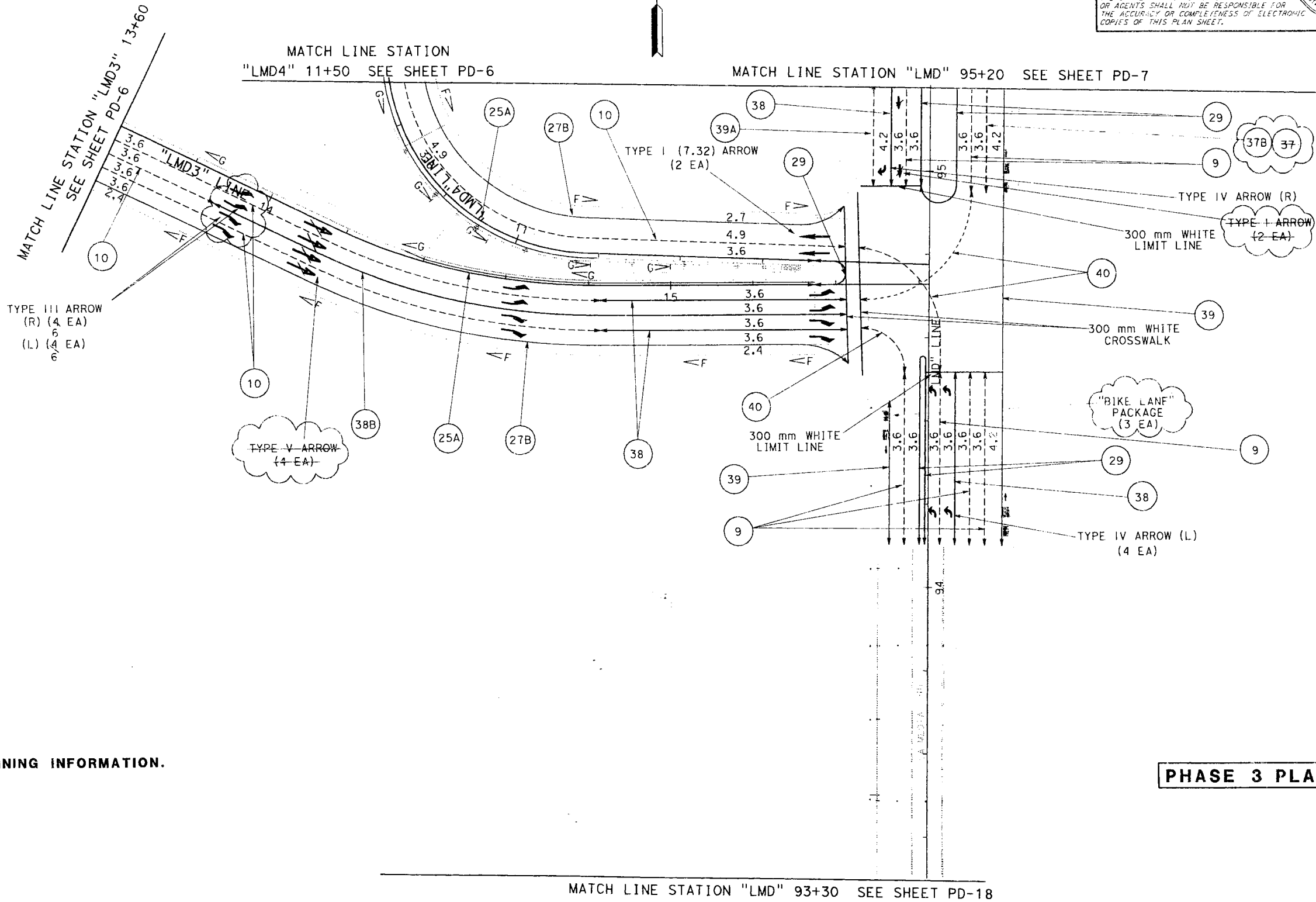
J.P. SIMS

No. 49715

Exp. 9-30-08

CIVIL

STATE OF CALIFORNIA



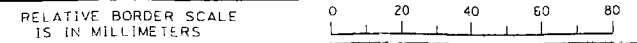
THIS SHEET ACCURATE FOR PAVEMENT DELINEATION ONLY

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

SCALE 1:500

PAVEMENT DELINEATION AND SIGN PLAN

P-23 PD-19



USERNAME => s108638
DGN FILE => b09182no019_p3.dgn

CU 11223

EA 091821



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	905	R13.9/R18.6	636	895

JOEL P. SIMS

08-06-08

REGISTERED CIVIL ENGINEER DATE

09-17-07

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER

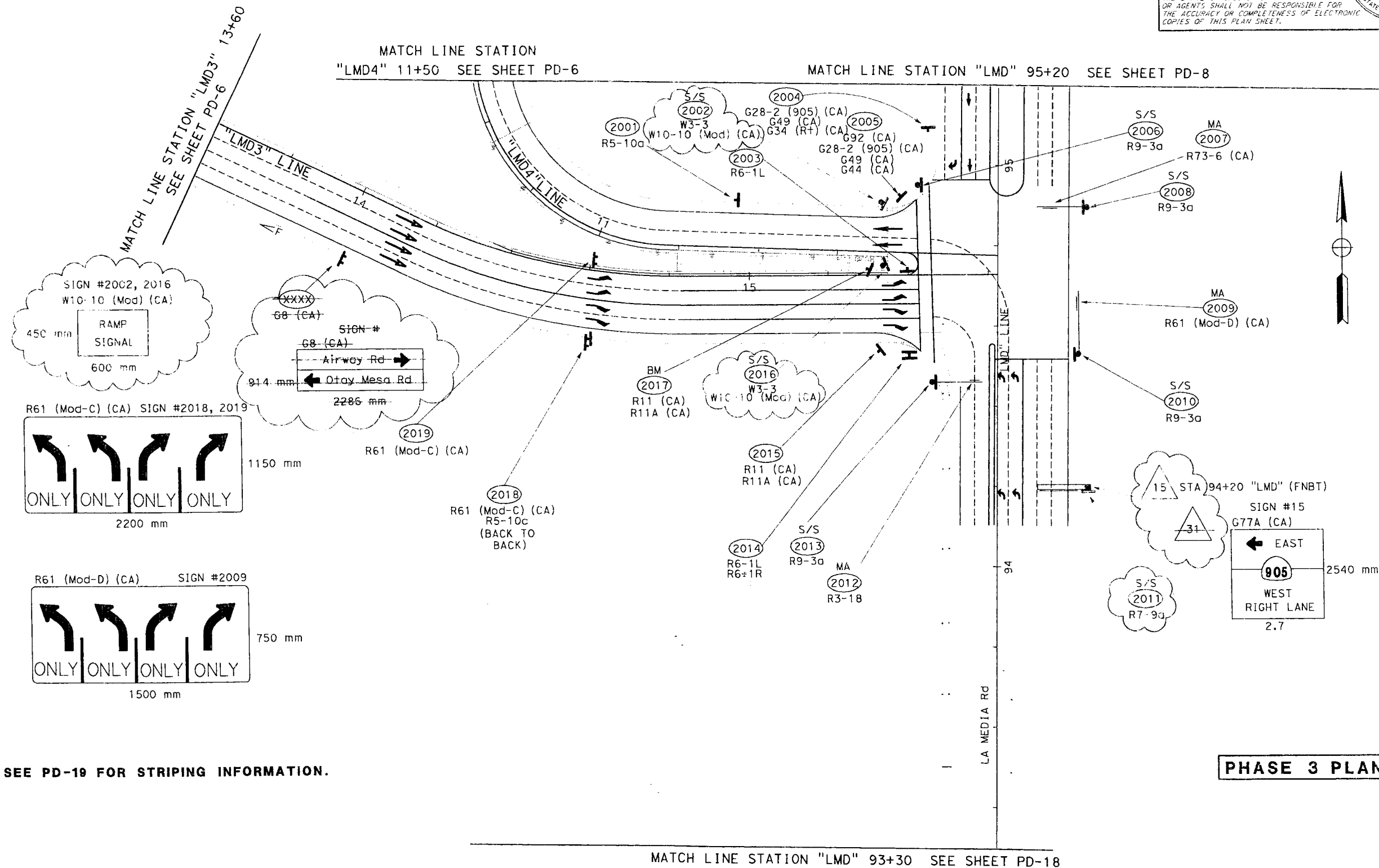
J.P. SIMS

No. 49715

Exp. 9-30-08

CIVIL

STATE OF CALIFORNIA



SEE PD-19 FOR STRIPING INFORMATION.

PHASE 3 PLAN

PAVEMENT DELINEATION AND SIGN PLAN

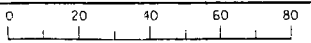
P-24 PD-20

THIS SHEET ACCURATE FOR SIGN WORK ONLY

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

SCALE 1:500

RELATIVE BORDER SCALE IS IN MILLIMETERS

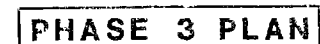


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CU 11223

EA 091821

THE STATE OF CALIFORNIA OR ITS OFFICERS
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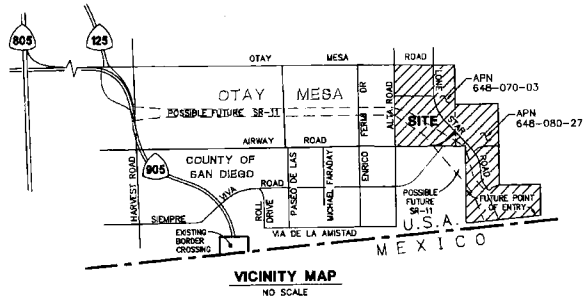


P-25 PD-21

APPENDIX Q

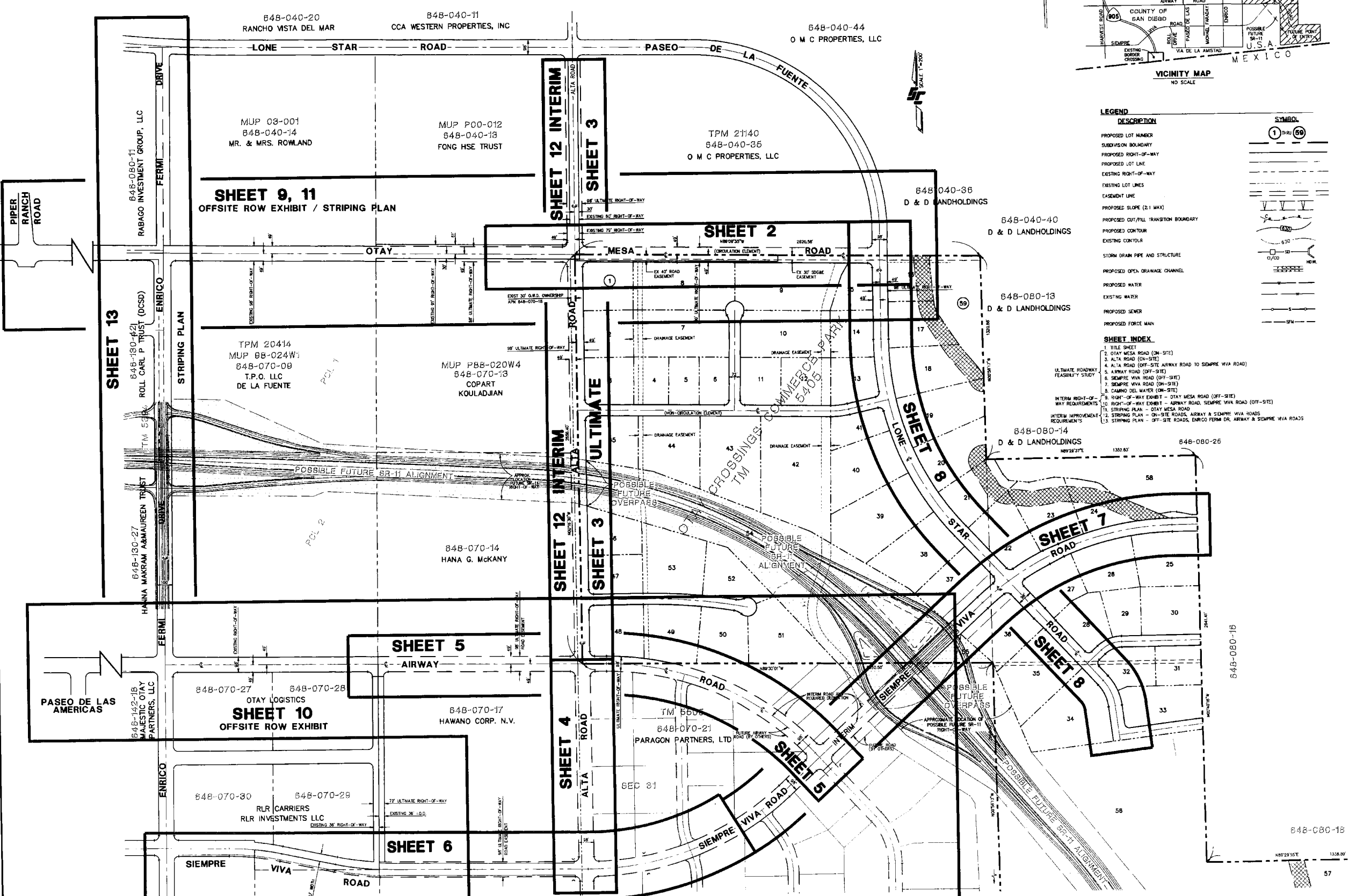
- Stevens Cresto Engineering, Inc. – Preliminary Route Study for Otay Crossings

COUNTY OF SAN DIEGO TRACT 5405 RPL6
OTAY MESA, CALIFORNIA
PRELIMINARY ROUTE STUDY

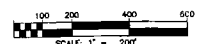


LEGEND	SYMBOL
PROPOSED LOT NUMBER	1 thru 59
SUBDIVISION BOUNDARY	---
PROPOSED RIGHT-OF-WAY	---
PROPOSED LOT LINE	---
EXISTING RIGHT-OF-WAY	---
EXISTING LOT LINES	---
EASEMENT LINE	---
PROPOSED SLOPE (2:1 MAX)	V V V
PROPOSED CUT/FILL TRANSITION BOUNDARY	---
PROPOSED CONTOUR	---
EXISTING CONTOUR	---
STORM DRAIN PIPE AND STRUCTURE	---
PROPOSED OPEN DRAINAGE CHANNEL	---
PROPOSED WATER	---
EXISTING WATER	---
PROPOSED SEWER	---
PROPOSED FORCE MAIN	---

SHEET INDEX
1. TITLE SHEET
2. OTAY MESA ROAD (ON-SITE)
3. ALTA ROAD (ON-SITE)
4. ALTA ROAD (OFF-SITE AIRWAY ROAD TO SIEMPRE VIVA ROAD)
5. AIRWAY ROAD (OFF-SITE)
6. SIEMPRE VIVA ROAD (OFF-SITE)
7. SIEMPRE VIVA ROAD (ON-SITE)
8. CAMINO DEL MAVER (ON-SITE)
9. RIGHT-OF-WAY EXHIBIT - OTAY MESA ROAD (OFF-SITE)
10. RIGHT-OF-WAY EXHIBIT - AIRWAY ROAD, SIEMPRE VIVA ROAD (OFF-SITE)
11. STRIPING PLAN - OTAY MESA ROAD
12. STRIPING PLAN - ON-SITE ROADS, AIRWAY & SIEMPRE VIVA ROADS
13. STRIPING PLAN - OFF-SITE ROADS, ENRICO FERM DRIVE, AIRWAY & SIEMPRE VIVA ROADS



REVISIONS
11/26/08 IM 5405 RPL6 UPDATES / STRIPING PLANS ADDED
5/15/09 IM 5405 RPL6 UPDATES / MITIGATED RIGHT-OF-WAY EXHIBIT UPDATES
10/15/06 SIEMPRE VIVA RD (AIRWAY TO ENRICO FERM DR), AIRWAY RD, (SIEMPRE VIVA RD TO WEST EDGE OF APN 648-070-17)

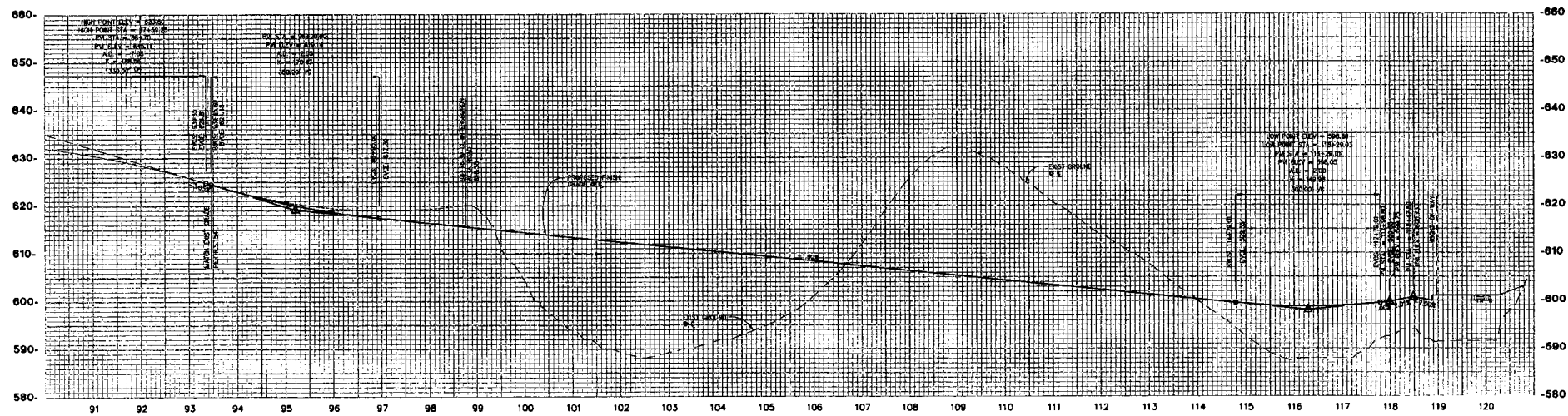


COUNTY OF SAN DIEGO TRACT 5405 RPL6
OTAY CROSSINGS COMMERCE PARK
SAN DIEGO, CALIFORNIA

PRELIMINARY ROUTE STUDY
COUNTY OF SAN DIEGO (CIRCULATION ELEMENT ROADWAYS)

DATE: 06/01/08
SHEET NO.: 03043.03
SHEET: 1
1 OF 13 SHEETS

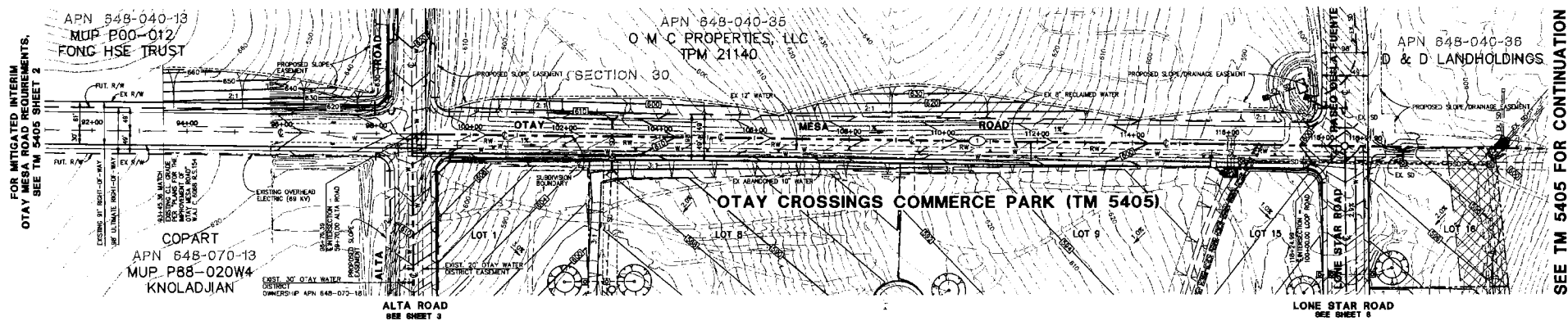
Q-1



PROFILE: OTAY MESA ROAD
SCALE: 1" = 100' HORIZ. 1" = 10' VERT.

NOTE:
EXISTING IMPROVEMENTS TO
OTAY MESA ROAD WEST OF
ALTA AND ALTA ROAD NORTH
OF OTAY MESA ROAD PER
CD-4414, CD-4530, CD-4540

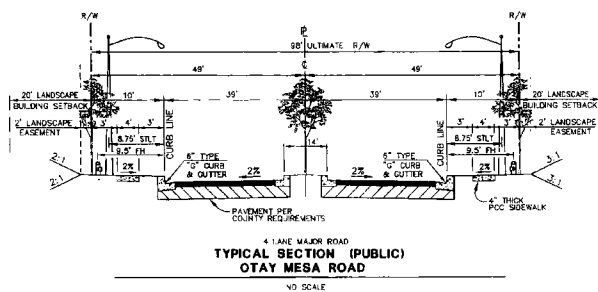
NOTE:
EXISTING IMPROVEMENTS
SHOWN HEREON PER
CD-4530



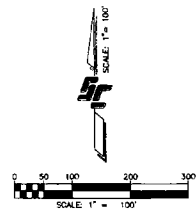
SEE TM 5405 FOR CONTINUATION

CENTERLINE DATA				
NO.	BEARING-DELTA	RADIUS	LENGTH	REMARKS
1	N89°09'33" W	1,845.62	85+79.39 TO 110+24.91	

ROADWAY DESIGN CRITERIA: OTAY MESA ROAD
(ULTIMATE ROADWAY WIDTH)
PROPOSED CLASSIFICATION: MAJOR ROAD (EAST OF ENRIQUE FERRA DRIVE)
RIGHT OF WAY: 88FT
DESIGN SPEED: 55 MPH
DATA GHT SLOPE: GRADE: 2:1 MAX



NOTE:
ROAD DESIGN SHOWN FOR ROUTE STUDY
ALIGNMENT AND GRADE ONLY. DESIGN OF
ROADWAY AND GRADING APPEARANCES
TO FOLLOW APPROVAL OF ROUTE STUDY



ULTIMATE
PRELIMINARY ROUTE STUDY
OTAY MESA ROAD

COUNTY OF SAN DIEGO TRACT 5405 RPL6
OTAY CROSSINGS COMMERCE PARK
SAN DIEGO, CALIFORNIA

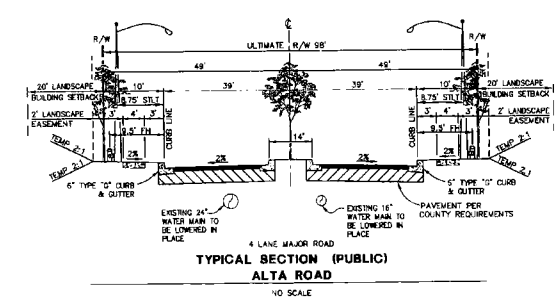
STEVENS CRESTO ENGINEERING, INC.
CIVIL ENGINEER, LAND PLANNER, SURVEYOR
15445 CAPELLA DRIVE
SAN DIEGO, CA 92121-1252
PHONE: 619.441.1545
FAX: 619.441.1541
WWW.SCEI-INC.COM

DATE: 08/07/06
SHEET NO.: 03043.03
SHEET: 2
2 OF 13 SHEETS

Q-2

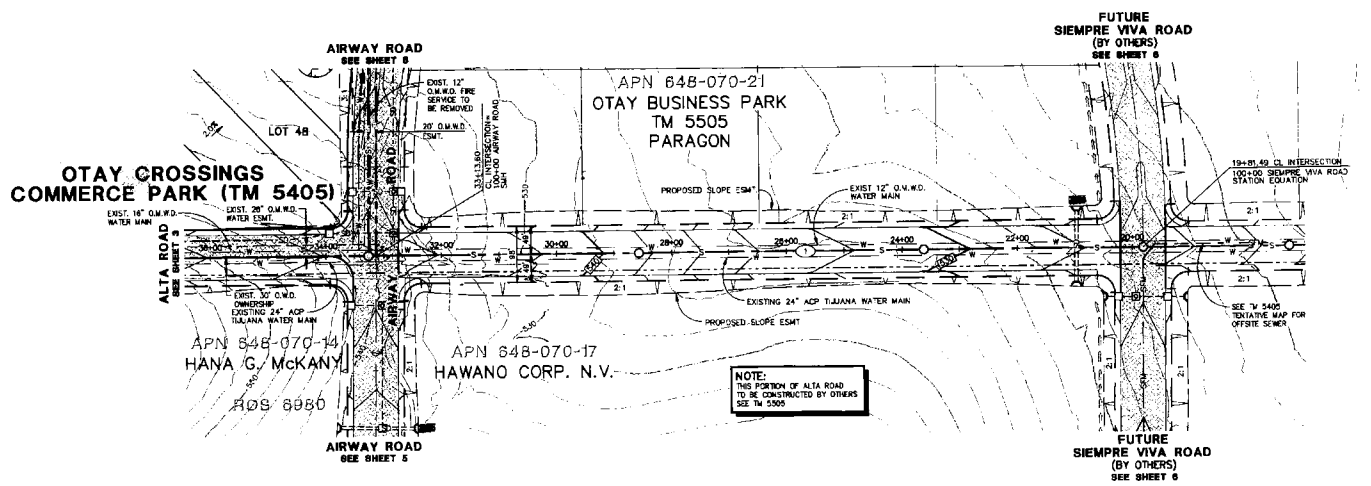
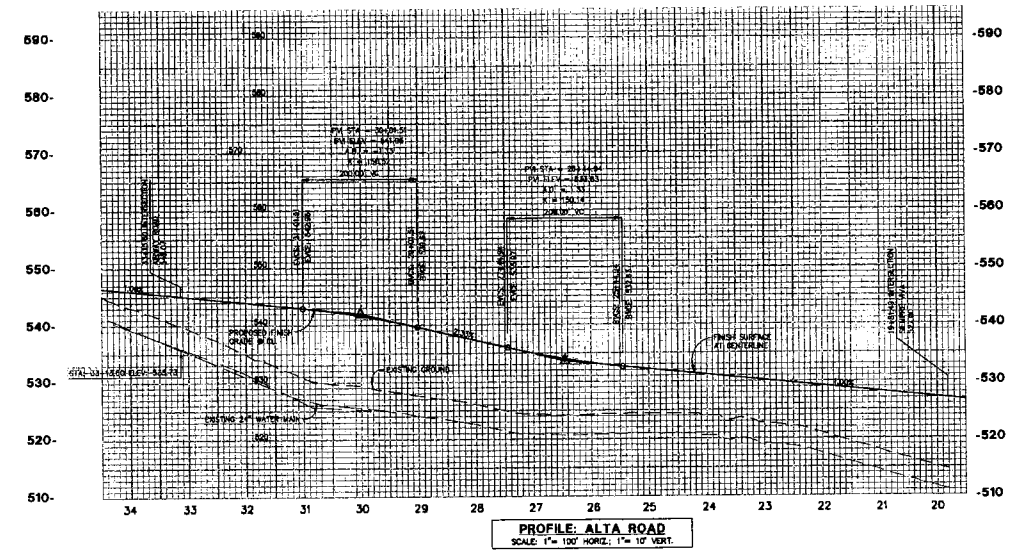
COUNTY OF SAN DIEGO TRACT 5405 RPL6
 OTAY CROSSINGS COMMERCE PARK
 SAN DIEGO, CALIFORNIA

ULTIMATE
 PRELIMINARY ROUTE STUDY
 ALTA ROAD

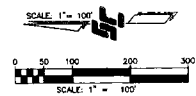


CENTERLINE DATA				
NO.	BEARING-DELTA	RADIUS	LENGTH	REMARKS
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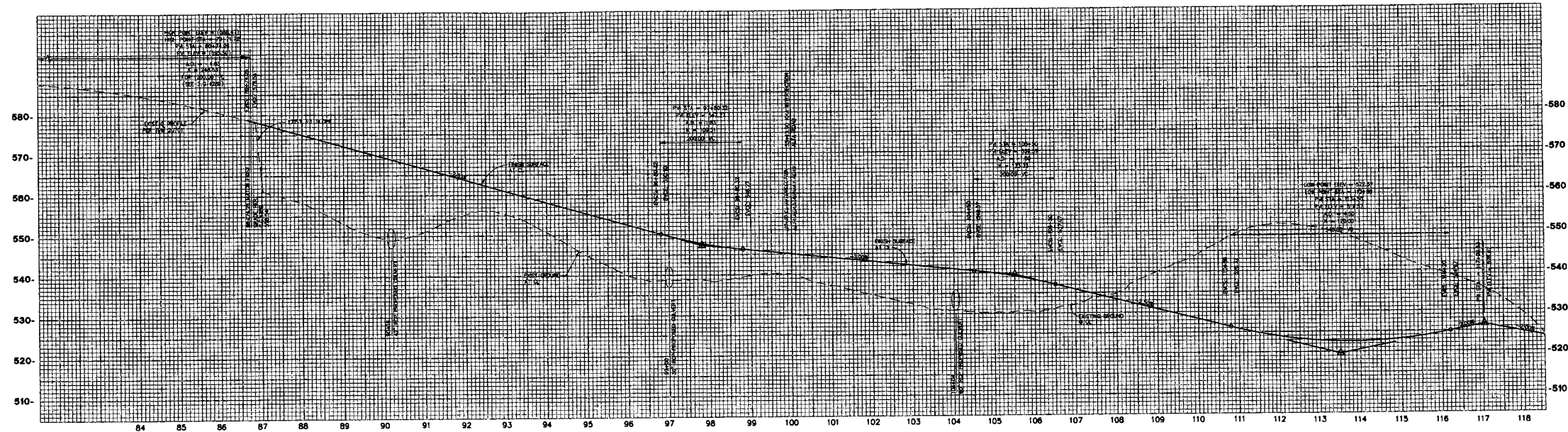
ROADWAY DESIGN CRITERIA: ALTA ROAD (ULTIMATE ROADWAY WIDTH)
 PROPOSED CLASSIFICATION: MAJOR ROAD
 RIGHT OF WAY: 80FT
 DESIGN SPEED: 55 MPH
 DAYLIGHT SLOPE GRADIENT: 2:1 MAX



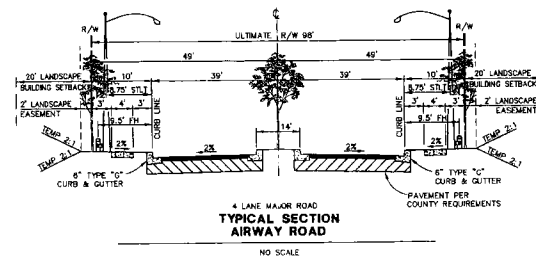
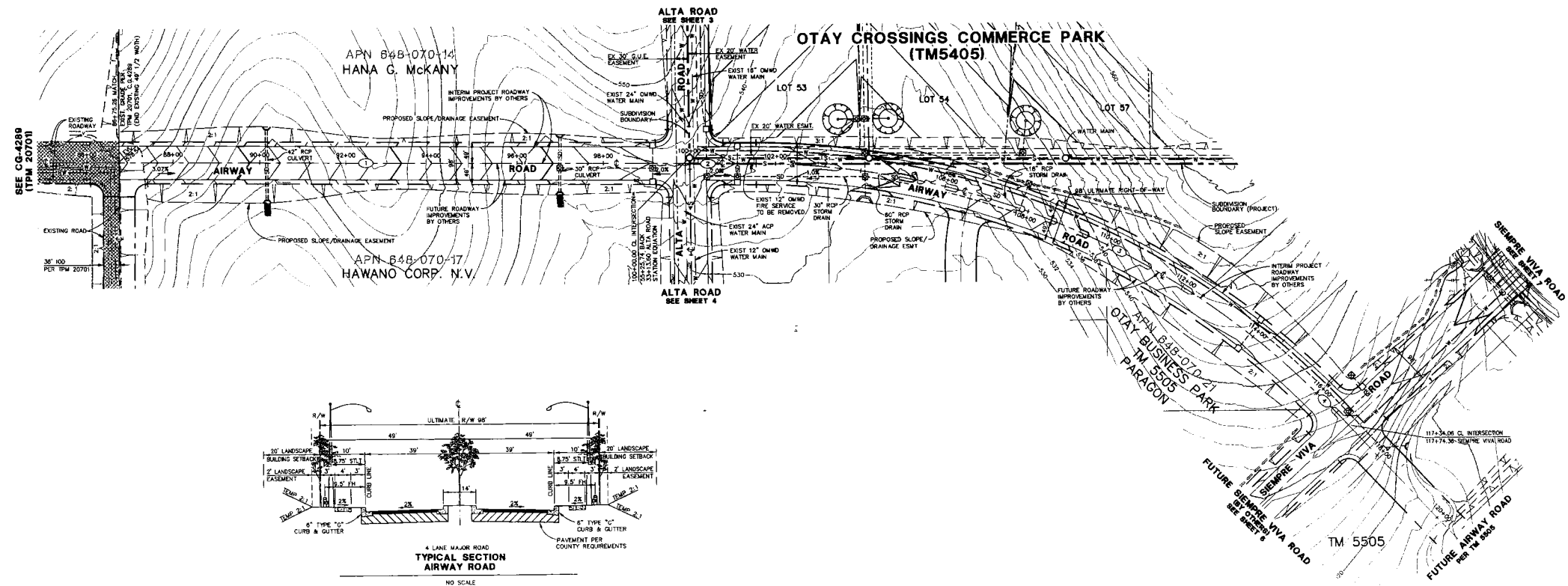
NOTE:
 THIS PORTION OF ALTA ROAD
 TO BE CONSTRUCTED BY OTHERS
 SEE TM 5505



Q-4



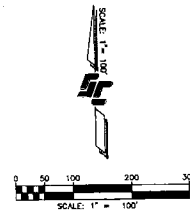
PROFILE: AIRWAY ROAD
SCALE: 1" = 100' HORIZ., 1" = 10' VERT.



ROADWAY DESIGN CRITERIA: AIRWAY ROAD (ULTIMATE ROADWAY WIDTH)

PROPOSED CLASSIFICATION: MAJOR ROAD
RIGHT OF WAY: 98 FT
DESIGN SPEED: 55 MPH
DAYLIGHT SLOPE GRADIENT: 2:1 MAX

CENTERLINE DATA				
NO.	BEARING-DELTA	RADIUS	LENGTH	REMARKS
1	N89°25'35"W	2700.50	155.15'	
2	N89°20'00"W	155.15'	155.15'	
3	N44°40'27"W	1850.00	1507.00'	
4	N42°49'59"W	570.84	570.84'	



NOTE:
ROAD DESIGN SHOWN FOR ROUTE STUDY
ALIGNMENT AND GRADE ONLY. DESIGN OF
ROADWAY AND GRADING APPEARANCES
TO FOLLOW APPROVAL OF ROUTE STUDY

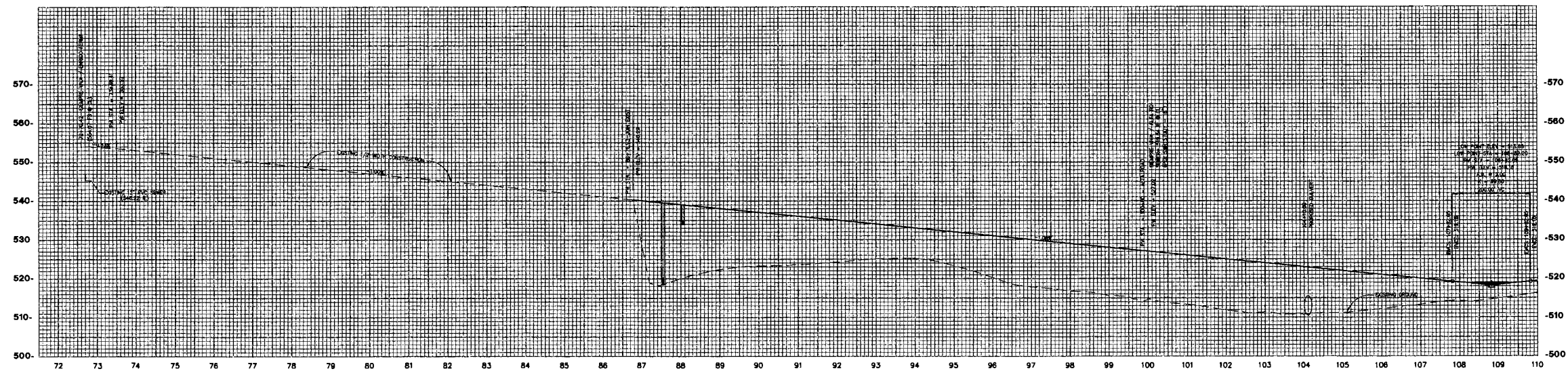
COUNTY OF SAN DIEGO TRACT 5405 RPL6
OTAY CROSSINGS COMMERCE PARK
SAN DIEGO, CALIFORNIA

ULTIMATE
PRELIMINARY ROUTE STUDY
AIRWAY ROAD

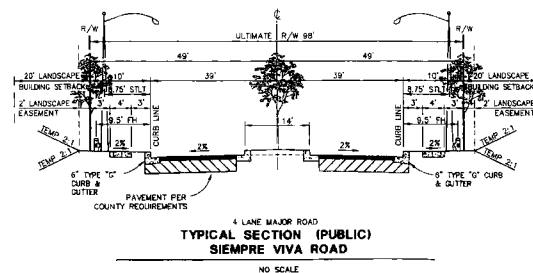
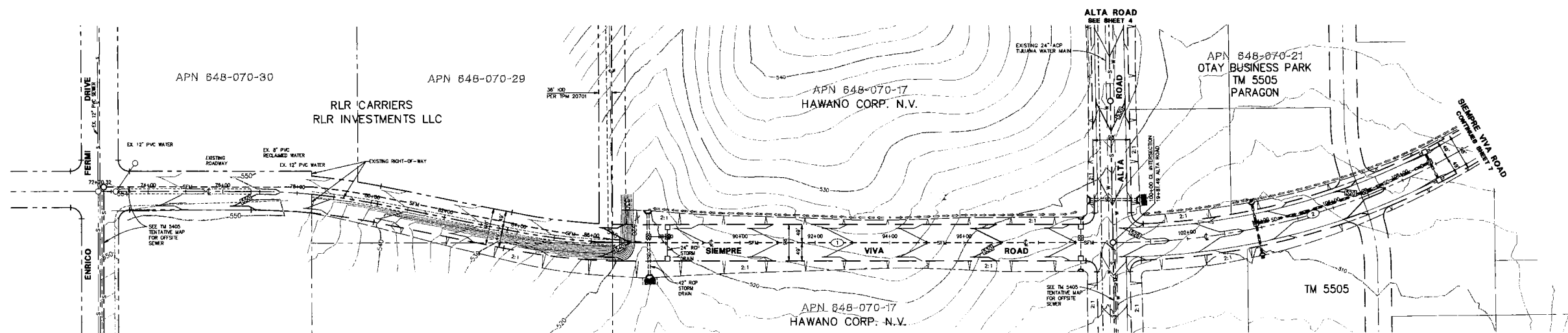
DATE: 08/09/08
SHEET NO.: 03043.03
SHEET

5

Q-5



PROFILE: SIEMPRE VIVA ROAD
SCALE: 1" = 100' HORIZ.; 1" = 10' VERT.

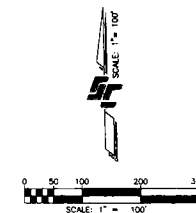


ROADWAY DESIGN CRITERIA: SIEMPRE VIVA ROAD (ULTIMATE ROADWAY WIDTH)

PROPOSED CLASSIFICATION: MAJOR ROAD
RIGHT OF WAY: 60 FT
DESIGN SPEED: 55 MPH
DAYLIGHT SLOPE GRADIENT: 2:1 MAX

NOTE:
ROAD DESIGN SHOWN FOR ROUTE STUDY
ALIGNMENT AND GRADE ONLY. DESIGN OF
ROADWAY AND TRADING APPEARANCES TO
FOLLOW APPROVAL OF ROUTE STUDY

CENTERLINE DATA				
NO.	BEARING-DELTA	RADIUS	LENGTH	REMARKS
1	43°20'04"	1850.00'	1459.63'	
2				

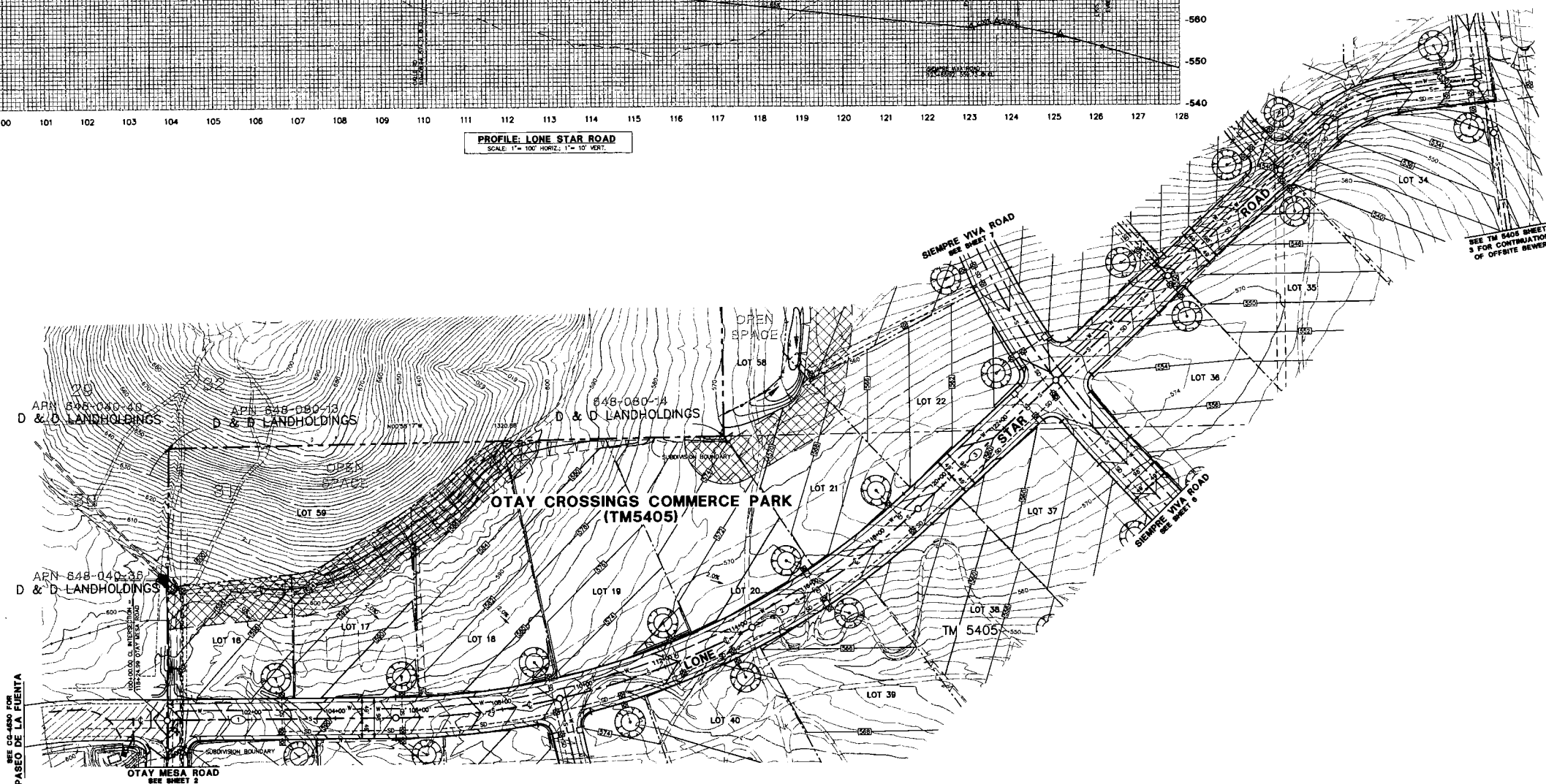
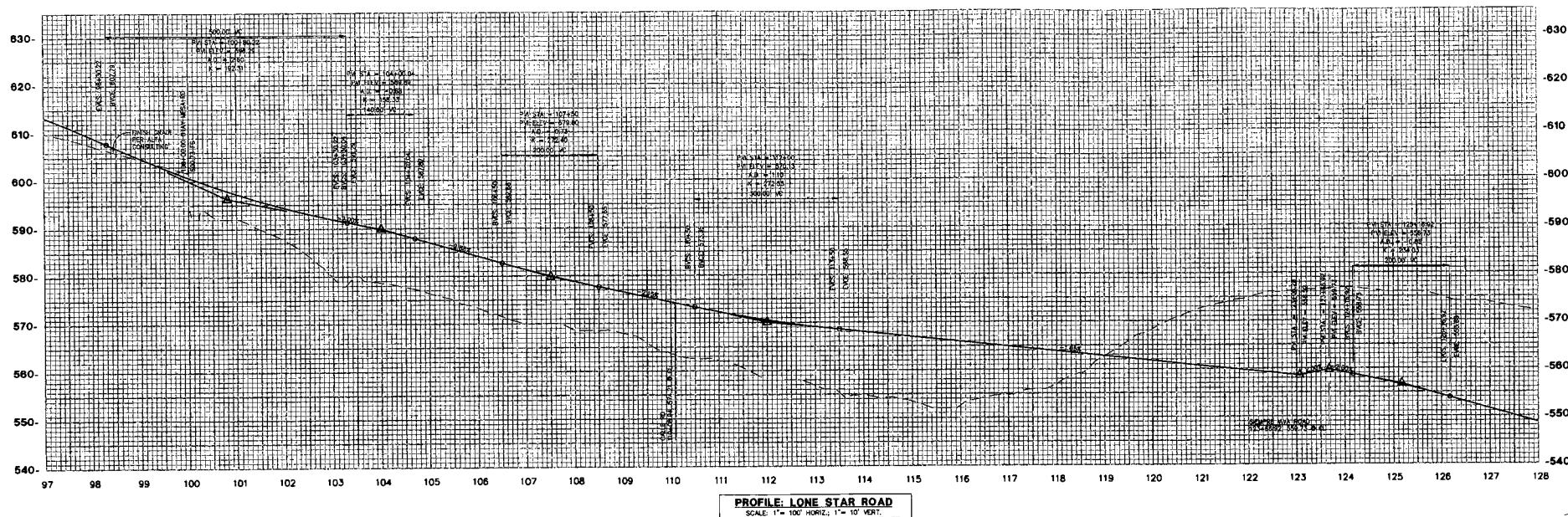


COUNTY OF SAN DIEGO TRACT 5405 RPL6
OTAY CROSSINGS COMMERCE PARK
SAN DIEGO, CALIFORNIA

ULTIMATE
PRELIMINARY ROUTE STUDY
SIEMPRE VIVA ROAD

DATE: 08/01/08
SCE NO: 03043.03
SHEET
6
6 OF 13 SHEETS

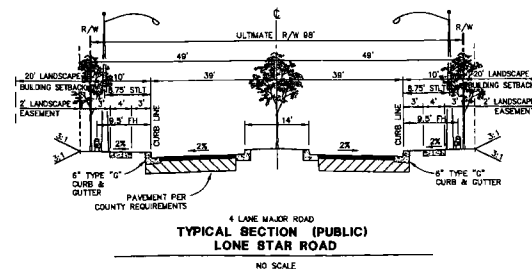
Q-6



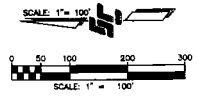
ROADWAY DESIGN CRITERIA: LONE STAR ROAD (ULTIMATE ROADWAY WIDTH)

PROPOSED CLASSIFICATION: MAJOR ROAD - DATUM TO SIEMPRE VIVA ROAD
 RIGHT OF WAY: 98 FT
 DESIGN SPEED: 55 MPH
 DAYLIGHT SLOPE GRADIENT: 2:1 MAX

CENTERLINE DATA				
NO.	BEARING-DELTA	RADIUS	LENGTH	REMARKS
1	N00°18'30"W	943.62		
2	S42°33'50"W	1850.00	1373.69	
3	S62°48'30"W		425.42	



NOTE:
 ROAD DESIGN SHOWN FOR ROUTE STUDY
 ALIGNMENT AND GRADE ONLY. DESIGN OF
 ROADWAY AND GRADING APPEARANCES
 TO FOLLOW APPROVAL OF ROUTE STUDY



COUNTY OF SAN DIEGO TRACT 5405 RPL6
 OTAY CROSSINGS COMMERCE PARK
 SAN DIEGO, CALIFORNIA

ULTIMATE
 PRELIMINARY ROUTE STUDY
 LONE STAR ROAD

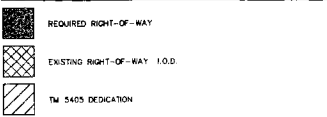
STEVENS CRESTO ENGINEERING, INC.
 CIVIL ENGINEERS, LAND PLANNERS, SURVEYORS
 1845 CHILMARK LANE
 SAN DIEGO, CA 92123-1332
 PHONE: 619-594-5000
 FAX: 619-594-5001
 WWW.SCE-ENG.COM

DATE: 06/01/08
 SHEET NO.: 03043.03
 SHEET: 8
 8 OF 13 SHEETS

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OFFSITE RIGHT-OF-WAY EXHIBIT
COUNTY OF SAN DIEGO TRACT T.M. 5405 RPL6
OTAY MESA ROAD

RIGHT-OF-WAY DEDICATION LEGEND



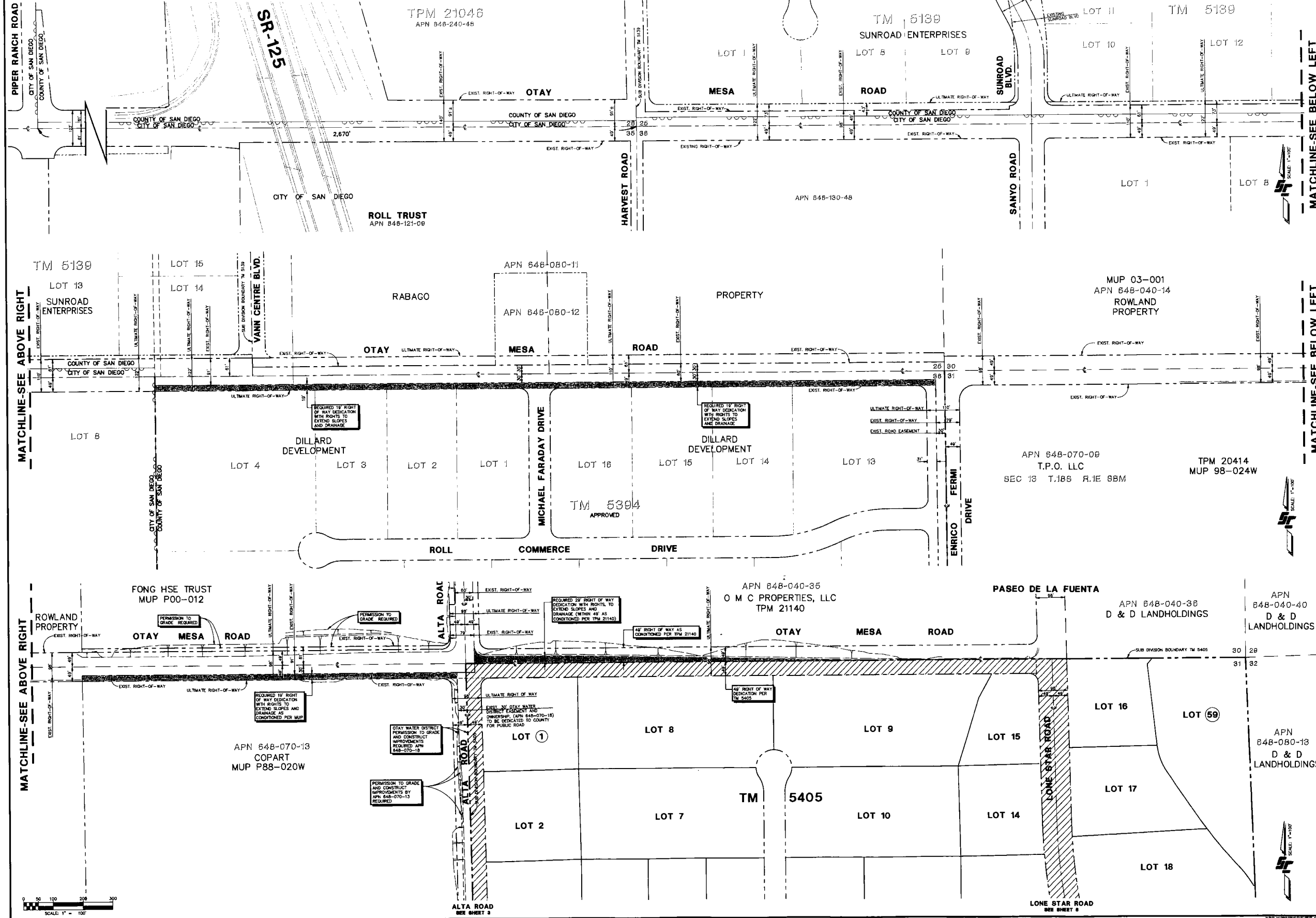
STEVENS-CRESTO ENGINEERING, INC.
CIVIL ENGINEERS - LAND PLANNERS - SURVEYORS
10000 CRENSHAW BLVD., SUITE 300
SAN DIEGO, CA 92124
PHONE: (619) 594-8800
FAX: (619) 594-8801
WWW.SCE-INC.COM

COUNTY OF SAN DIEGO TRACT 5405 RPL6
OTAY CROSSINGS COMMERCE PARK
SAN DIEGO, CALIFORNIA

INTERIM
PRELIMINARY ROUTE STUDY
COUNTY OF SAN DIEGO (CIRCULATION ELEMENT ROADWAYS)

DATE: 06/01/08
SHEET NO.: 03043.03
SHEET
9
8 OF 13 SHEETS

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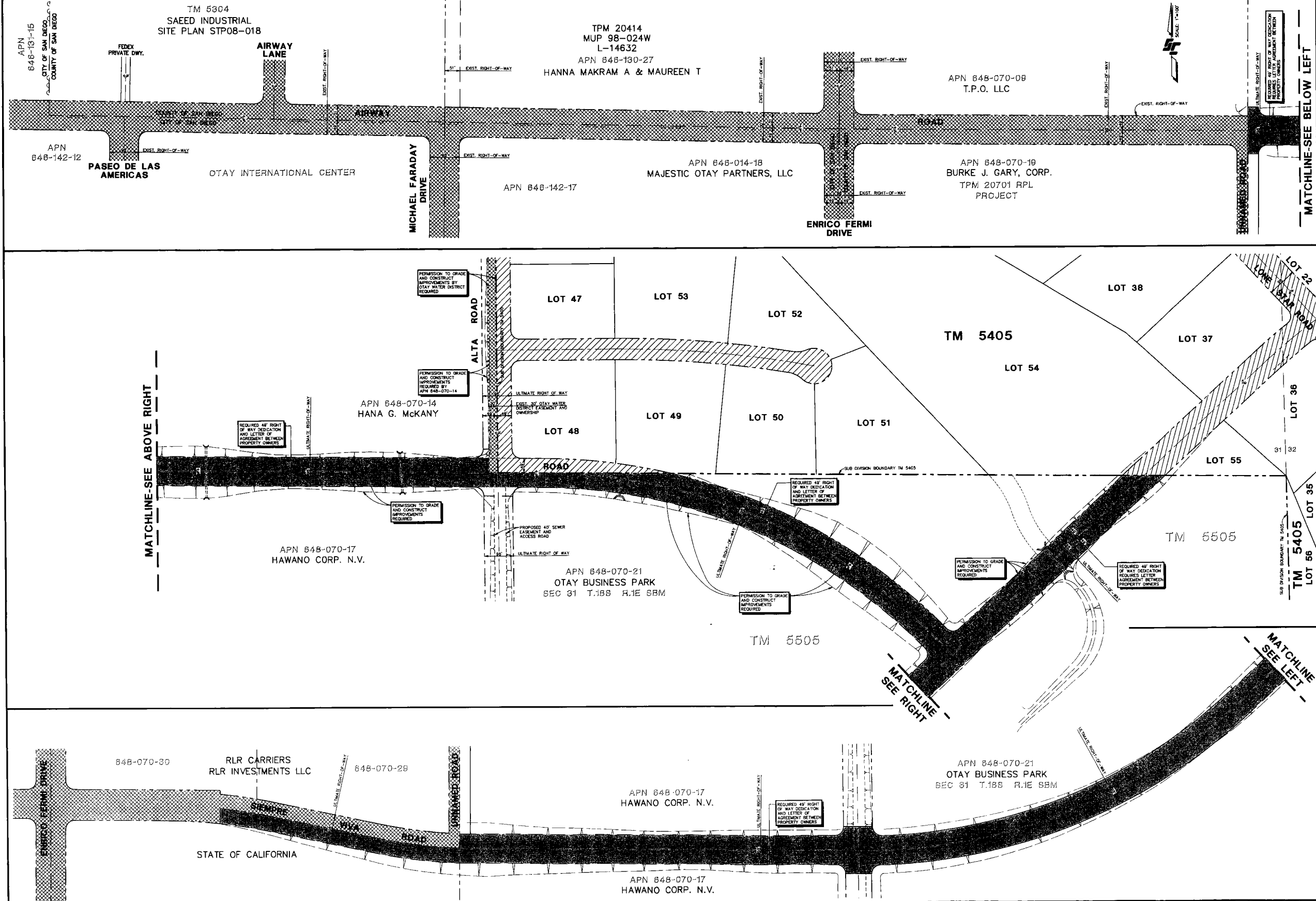
OFFSITE RIGHT-OF-WAY EXHIBIT

COUNTY OF SAN DIEGO TRACT T.M. 5405 RPL6

AIRWAY ROAD

RIGHT-OF-WAY DEDICATION LEGEND

- REQUIRED RIGHT-OF-WAY / ROAD EASEMENT
- EXISTING RIGHT-OF-WAY
- TM 5405 DEDICATION



STEVEN GUSTO ENGINEERING, INC.
 CIVIL ENGINEERS / LAND PLANNERS / SURVEYORS
 1000 CLEVELAND DRIVE
 SAN DIEGO, CA 92121-1332
 PHONE: 619-594-5400
 FAX: 619-594-5401
 WWW: www.sge.com

COUNTY OF SAN DIEGO TRACT 5405 RPL6
 OTAY CROSSINGS COMMERCE PARK
 SAN DIEGO, CALIFORNIA

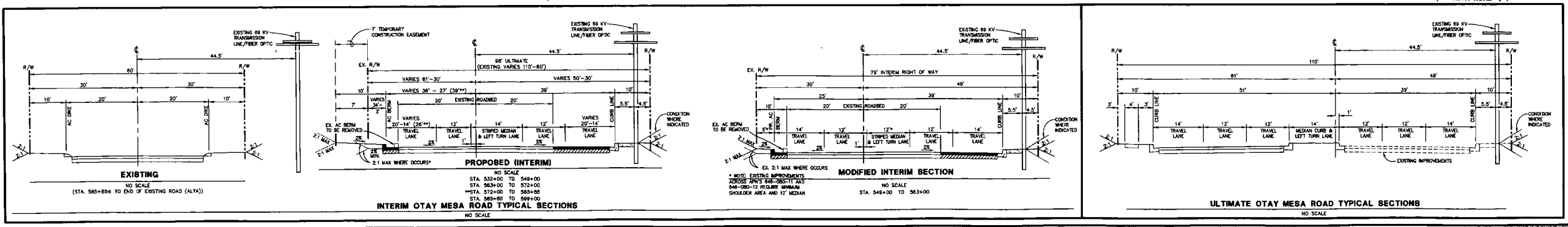
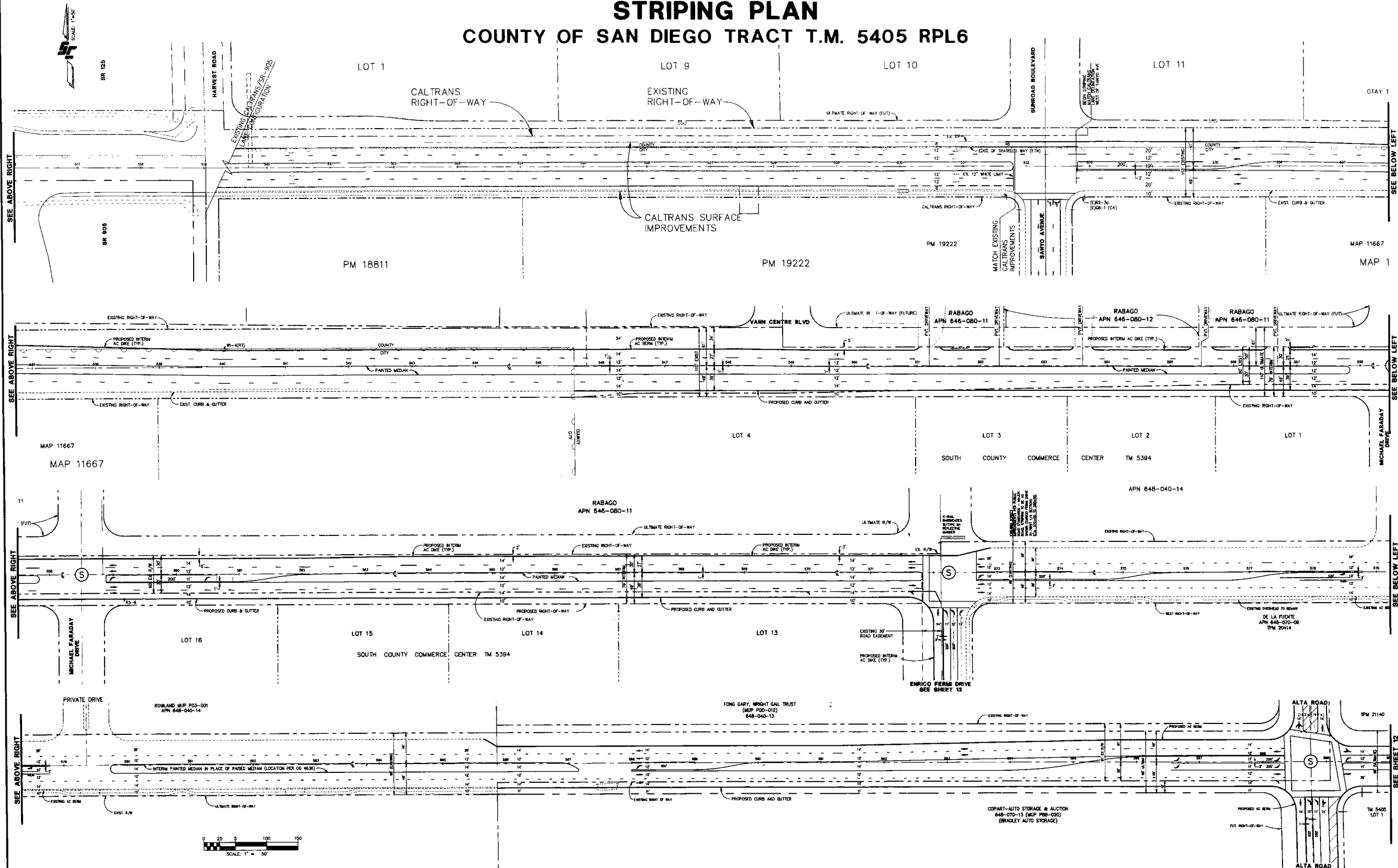
INTERIM
 PRELIMINARY ROUTE STUDY
 COUNTY OF SAN DIEGO (CIRCULATION ELEMENT ROADWAYS)

DATE: 09/01/06
 SHEET NO.: 03043.03
 SHEET
10
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STRIPING PLAN

COUNTY OF SAN DIEGO TRACT T.M. 5405 RPL6



STEVENS-CRESTO ENGINEERING, INC.
CIVIL ENGINEERS, PLANNERS, LAND SURVEYORS
1500 CHERRY AVE. SUITE 300
SAN DIEGO, CA 92103-1000
PHONE: (619) 594-1000
FAX: (619) 594-1001

COUNTY OF SAN DIEGO TRACT 5405 RPL6
OTAY CROSSINGS COMMERCE PARK
SAN DIEGO, CALIFORNIA

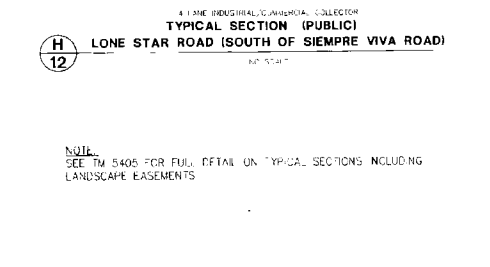
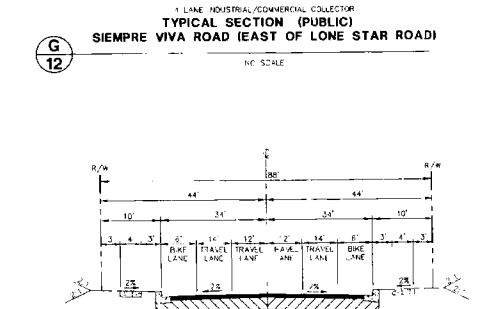
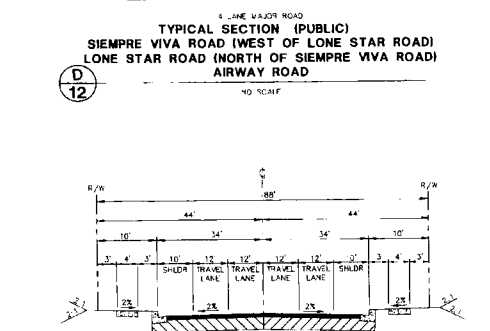
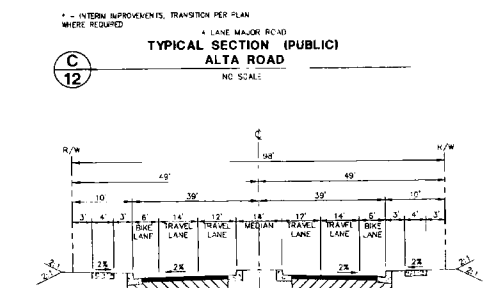
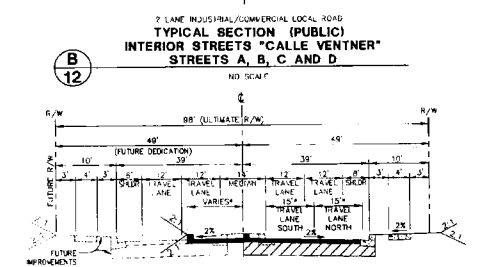
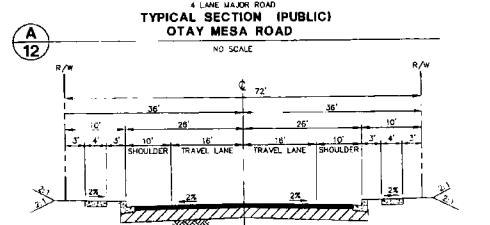
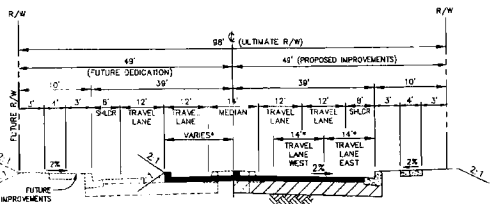
OTAY MESA ROAD (SANYO AVENUE TO ALTA ROAD)
INTERIM STRIPING (DIRECT IMPACTS)
PRELIMINARY ROUTE STUDY
COUNTY OF SAN DIEGO (CIRCULATION ELEMENT ROADWAYS)

DATE: 11/25/08
SHEET NO.: 00043.03
SHEET

STRIPING PLAN
COUNTY OF SAN DIEGO TRACT T.M. 5405 RPL6

SYMBOL	DESCRIPTION
(1) 59	PROPOSED LOT NUMBER
---	SUBDIVISION BOUNDARY
---	UNIT BOUNDARY
---	PROPOSED LOT LINE
---	PROPOSED RIGHT-OF-WAY
(S)	TRAFFIC SIGNAL
(S)	EXISTING TRAFFIC SIGNAL

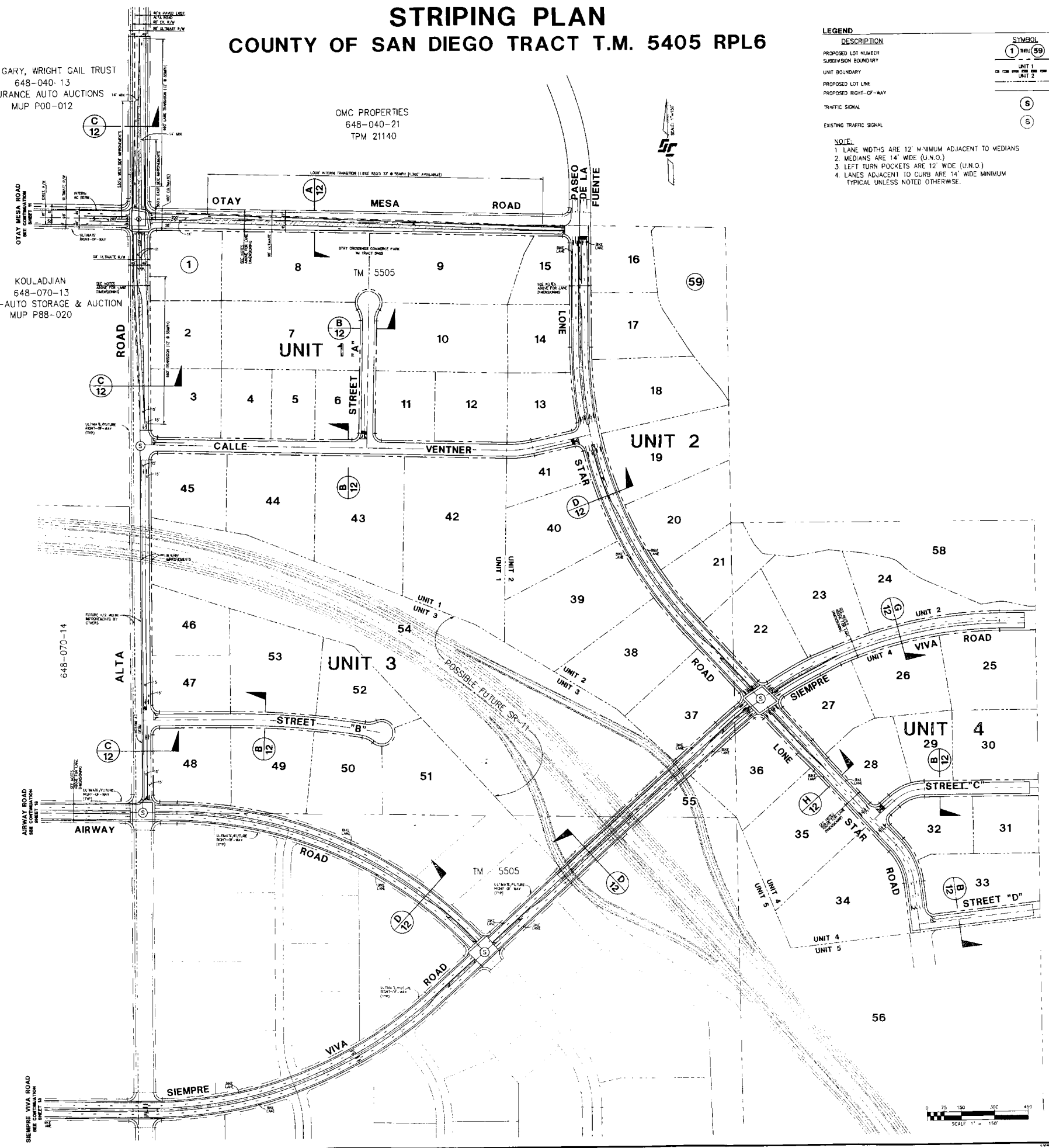
NOTE:
1. LANE WIDTHS ARE 12' MINIMUM ADJACENT TO MEDIANS
2. MEDIANS ARE 14' WIDE (U.N.O.)
3. LEFT TURN POCKETS ARE 12' WIDE (U.N.O.)
4. LANES ADJACENT TO CURB ARE 14' WIDE MINIMUM
TYPICAL UNLESS NOTED OTHERWISE.



FONG GARY, WRIGHT GAIL TRUST
648-040-13
INSURANCE AUTO AUCTIONS
MUP P00-012

OMC PROPERTIES
648-040-21
TPM 21140

KOUADJIAN
648-070-13
COPART-AUTO STORAGE & AUCTION
MUP P88-020



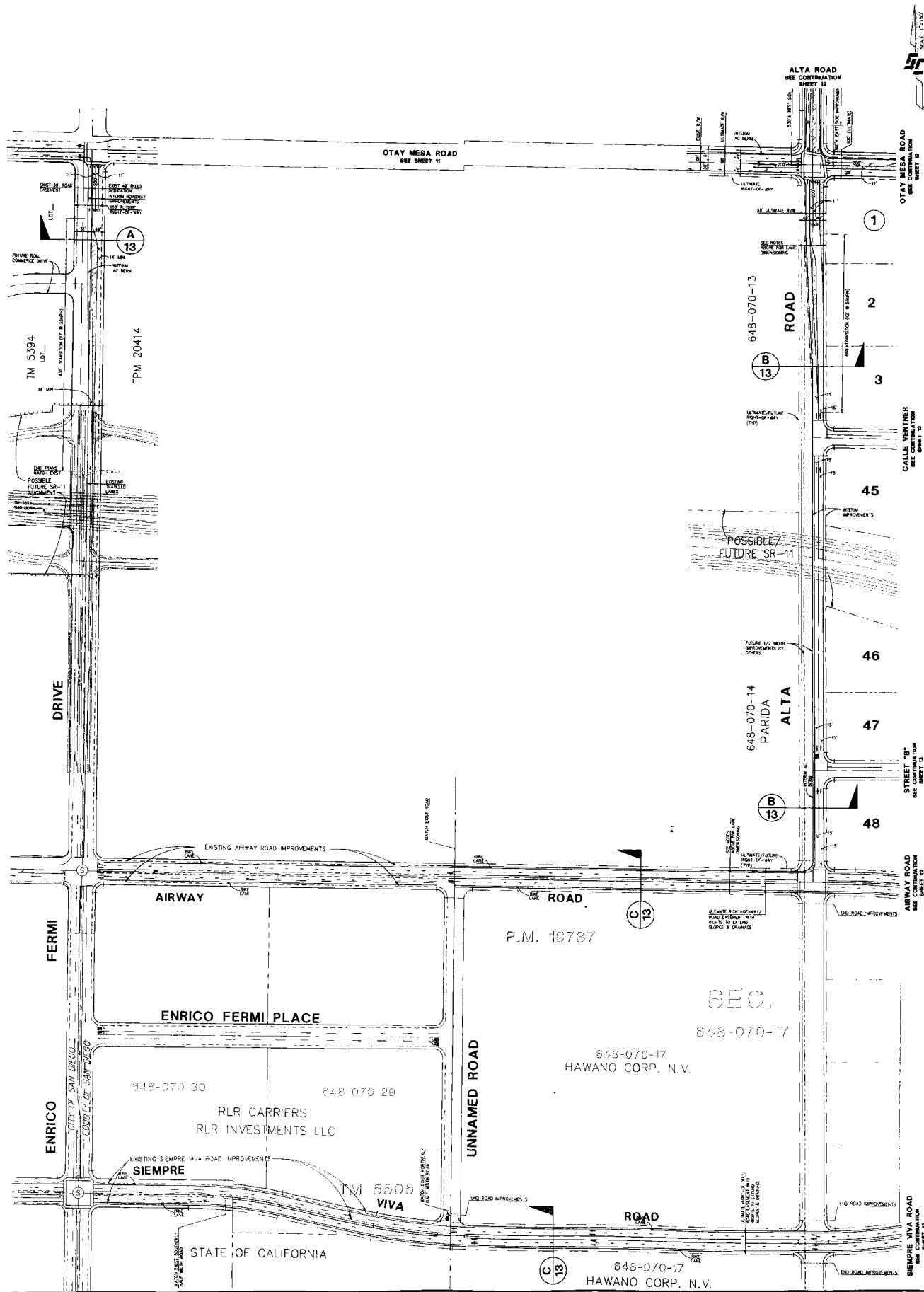
COUNTY OF SAN DIEGO TRACT 5405 RPL6
OTAY CROSSINGS COMMERCE PARK
SAN DIEGO, CALIFORNIA

AIRWAY, SIEMPRE VIVA, ENRICO FERMI DRIVE, & ALTA ROAD
INTERIM STRIPING (DIRECT IMPACTS)
PRELIMINARY ROUTE STUDY
COUNTY OF SAN DIEGO (CIRCULATION ELEMENT ROADWAYS)

DATE: 1/28/08
SHEET NO: 03043.03
SHEET: 12
12 OF 13 SHEETS

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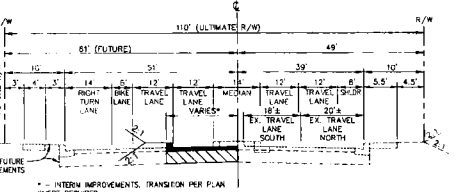
STRIPING PLAN
COUNTY OF SAN DIEGO TRACT T.M. 5405 RPL6



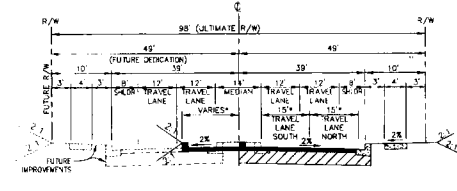
LEGEND

DESCRIPTION	SYMBOL
PROPOSED LOT NUMBER	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50
SUBDIVISION BOUNDARY	UNIT 1 UNIT 2
UNIT BOUNDARY	UNIT 1 UNIT 2
PROPOSED LOT LINE	
PROPOSED RIGHT-OF-WAY	
TRAFFIC SIGNAL	S
EXISTING TRAFFIC SIGNAL	S

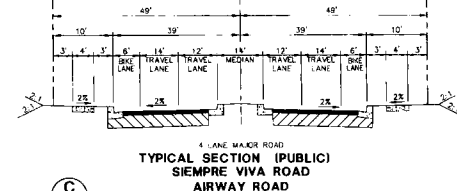
NOTE:
1. LANE WIDTHS ARE 12' MINIMUM ADJACENT TO MEDIANS
2. MEDIANS ARE 14' WIDE (U.N.O.)
3. LEFT TURN POCKETS ARE 12' WIDE (U.N.O.)
4. LANES ADJACENT TO CURB ARE 14' WIDE MINIMUM
TYPICAL UNLESS NOTED OTHERWISE



4 LANE MAJOR ROAD
TYPICAL SECTION (PUBLIC)
ENRICO FERMI DRIVE
NO SCALE

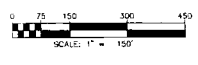


4 LANE MAJOR ROAD
TYPICAL SECTION (PUBLIC)
ALITA ROAD
NO SCALE



4 LANE MAJOR ROAD
TYPICAL SECTION (PUBLIC)
SIEMPRE VIVA ROAD
AIRWAY ROAD
NO SCALE

NOTE:
SEE TM 5405 FOR FULL DETAILED TYPICAL SECTIONS, INCLUDING
LANDSCAPE EASEMENTS



Q-13

APPENDIX R

- Response to County's Comments



Darnell & ASSOCIATES, INC.

TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

MEMORANDUM

DATE: May 6, 2010

TO: Mr. John Bragg, Kearny PCCP Otay 311, LLC
Mr. Judd Halenza Jr., The Judd Company

FROM: Bill E. Darnell, P.E. 
Jessica Bavos 

D&A Ref. No: 040501

RE: Otay Crossings Commerce Park (TM 5405RPL7, ER 93-19-006Q) – Responses to
County Comments.

Darnell & Associates, Inc. (D&A) has reviewed the County of San Diego's comment on our April 20, 2010 Traffic Study for Otay Crossings Commerce Park (TM 5405RPL7, ER 93-19-006Q).

Comment 1: Page 149; for Unit 1, language describing cumulative impacts at the intersection of Airway Road/Sanyo Avenue and Siempre Viva Road/Michael Faraday Drive should read "prior to recordation of map for Unit 1" as the impacts are in the City of San Diego.

Response 1: Page 149 of the May 2010 revised Traffic Study has been revised accordingly.

Please feel free to contact the office if you have any questions.

Jessica Bavos

From: Rosenberg, Daniella [Daniella.Rosenberg@sdcounty.ca.gov]
Sent: Thursday, April 29, 2010 3:48 PM
To: Jessica Bavos
Subject: FW: Otay Crossings: Two Edits in TS for incorporation to EIR

Jessica,

In response to your voicemail, there is only one comment on the traffic study. Page 149: For Unit 1, language describing cumulative impacts at the intersection of Airway Road/Sanyo Avenue and Siempre Viva Road/Michael Faraday Road should read "**prior to recordation of map**" as the impacts are in the City of San Diego.

Thank you,

**DANIELLA ROSENBERG
LAND USE/ENVIRONMENTAL PLANNER III
(858) 694-3829**
